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Evaluating & Innovating Pressure Ulcer Risk Assessment

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ABBREVIATIONS KEY

CN	Community Nurse
CR	Critical Realism
CQUIN	Commissioning for Quality and Innovation
DoH	Department of Health
EPUAP	European Pressure Ulcer Advisory Panel
EUWT-Q	Experiences of Using the Waterlow Pressure Ulcer Risk Assessment Tool - Questionnaire
FG	Focus Group
FGM	Focus Group Member
HRA	Health Research Authority
HS	Healthcare Support Worker
IPA	Interpretive Phenomenological Analysis
LBR	Learning Beyond Registration
MClinRes	Masters of Clinical Research
NPUAP	National Pressure Ulcer Advisory Panel
NHS	National Health Service
NICE	National Institute for Clinical Excellence
NIHR	National Institute of Health Research
NS	Nurse Specialist
OP	Other Professions
PD	Pressure Damage
PURAT	Pressure Ulcer Risk Assessment Tool
PU	Pressure Ulcer
PURPOSE	The Pressure UlceR Programme Of research
PUPPs	Pressure Ulcer Prevention Pathways
PURPOSE-T	Pressure Ulcer Risk Primary or Secondary Evaluation Tool
RCA	Root Cause Analysis
R&D	Research & Development
SE	Service Evaluation
SOP	Standard Operating Procedures
TA	Thematic Analysis
TH	Therapists
TPP	The Phoenix Partnership

ABSTRACT

Background

Pressure ulcers, (also known as pressure damage) are a debilitating, chronic wound condition representing a significant health and treatment burden. Associated with continuous pain (Brigs et al., 2013), distressing symptoms and impaired psychological and social functioning (Gorecki et al., 2013), reducing the quality of life for patients and their carers (Rees et al., 2001). The use of a validated pressure ulcer risk assessment tool for prevention assessment and management of PU is National Institute for Clinical Excellence (NICE) recommendation (NICE, 2015).

Rationale

Review of pressure damage assessment, prevention and management strategies, within an Community Health Services NHS Trust, identified themes requiring transformation to meet ever more complex clinical needs of patients and the elimination of all avoidable pressure damage within its care.

Method

A sequentially staged, service evaluation, implementing a new and innovative approach to pressure damage risk assessment, prevention and management strategies was undertaken. In Stage-One, a purpose designed questionnaire assessed clinician's perspectives surrounding current pressure damage assessment, prevention, and care management strategies. Stage-Two implemented the innovation and the Trust, became early adopters of Pressure Ulcer Risk Primary or Secondary Evaluation Tool (PURPOSE-T; 2013). In Stage-Three, PURPOSE-T was implemented during March 2016 for a four-week pilot period and nurse's perceptions surrounding implementation of PURPOSE-T were obtained via a focus group.

Results

Thematic analysis (TA; Braun & Clarke, 2006) of Stage-One survey identified three key themes in the way clinician's made sense of pressure damage prevention, management and care management strategies; Confidence in Tool Supporting Clinical Decision Making, Defensively Nursing and Usability. The findings suggest, clinicians are dichotomised toward considerations of using Waterlow in their daily practice. Some, considered Waterlow a useful, but flawed tool. A larger group of narratives however, strongly voiced Waterlow inadequacy supporting clinical decision making. Confusion surrounding interpretation of 'grey areas'

(Waterlow, 2005) or ambiguously interpretable risk factor identifiers were widely perceived as problematic, these narratives revealed deep frustration, lack of confidence and professional disempowerment, which were perceived as stemming from use of Waterlow. Clinicians also perceived use of Waterlow to have evolved into one of constrained dictation, rather than part of an assessment process. This was strongly voiced surrounding perceptions of a propensity for Waterlow to over predict risk and trigger inappropriate allocation of resources and clinical facing time. This seemingly had influencing a working culture where clinical judgement is (for some) overruled by Waterlow score outcome, resulting in a move toward a 'nursing by numbers' care approach. Suggesting the Trust may be wasting resources on more expensive forms of PU management than necessary. As such, many narratives directly requested Waterlow replacement.

In Stage-Two, PURPOSE-T was successfully integrated into SystmOne and effectively incorporated into clinical routine during the four-week pilot period. In Stage-Three Clinician satisfaction and support for PURPOSE-T, was strongly favourable. Focus group TA (Braun & Clarke, 2006), identified three themes surrounding implementation of PURPOSE-T: Comprehensiveness of Assessment, Improved Clinical Confidence and Acceptability. The screening stage was considered an important feature for improving patient care, improving allocation of resources and potentially saving the Trust costs through an improved PU risk identification. Risk factor descriptors were felt to be clear and unambiguous and improve risk factor interpretation. This resulted in clinicians perceiving there to be potential for greater consistency of risk factor identification between clinicians. PURPOSE-T was also considered as supporting well supporting clinicians to act in accordance with an own professional knowledgebase, rather than as response to an assessment score outcome. Difficulties were however, encountered with the colour coded assessment pathway guidance being functionally limited within SystmOne and usability concerns arose from a changed risk assessment format and process. Usability concerns were subsequently addressed and refined within the educational package developed to support implementation of PURPOSE-T.

Overall, PURPOSE-T was considered as encouraging a more thoughtful, approach to assessment, prevention and management of PU and improving congruency between clinical judgement and care pathway allocation.

Conclusion

Diverse clinical perspectives surrounding pressure ulcer assessment, prevention and management strategies using Waterlow, were well represented in Stage-One by an excellent response rate (Babbie, 1990). A new and innovative approach to pressure damage assessment, prevention and care management strategies was successfully implemented into clinical practice. Seemingly, the comprehensiveness of PURPOSE-T assessment has been instrumental developing clinical decision making confidence.

The PURPOSE-T movement is in its infancy, with a limited published evidence-base. The potential for learning opportunities and clinical practice transformation are sizable. The knowledge produced is grounded in experiences of those it seeks to inform. As such, the findings are strongly relevant to clinical practice and ultimately represent an important contribution toward achieving the Trusts quality agenda to eliminate all avoidable PU for patients in its care and provides robust evidence to support the continued use of PURPOSE-T as a suitable, sustainable and potentially cost saving replacement for Waterlow as standard practice across the Trust.

Keywords

PURPOSE-T; pressure assessment, prevention and management; implementation; pressure ulcer; pressure damage; qualitative research; focus groups; thematic analysis

1

INTRODUCTION

This introduction orientates the reader to the origins of the work, outlines its structure and presents a brief overview of the purpose for the work. A background to the problem of pressure damage is presented with rationale for the work and its clinical relevance. The purpose of the work is to firstly, qualitatively explore clinician's perceptions of their current clinical practice, using Waterlow pressure ulcer risk tool (Waterlow), for the assessment, prevention and management of pressure ulcers (PU) through a purpose designed survey and thematic analysis (TA; Braun & Clarke, 2006). Followed by the implementation of Pressure Ulcer Risk Primary or Secondary Evaluation Tool (PURPOSE-T; 2013); a new and innovative pressure ulcer risk assessment tool (PURAT) into clinical practice. A focus group and TA is used for exploring perceptions and interpretations of PURPOSE-T use and to develop insight and direction surrounding PURPOSE-T SystmOne integration. The suitability of implementing PURPOSE-T as standard practice across the Trust is considered.

1.1 Origins of the Thesis

The origins of this thesis are nestled within the award of a Learning Beyond Registration (LBR) Fellowship to Study a Masters of Clinical Research (MClinRes). A clinical placement undertaken within a Community Healthcare Service within [redacted] Research and Innovation Department as part of the course requirements of the MClinRes provided opportunity to identify an area of need 'ripe' for development and study which comprises this thesis.

1.2 Outline of Chapters

This thesis is divided into seven chapters. The first, introduces the reader to the origins of the thesis, terminology of the work and setting in which the work took place.

Chapter 2, presents a literature review and background surrounding pressure ulcer risk assessment and considers the need for a new approach to pressure ulcer risk assessment,

prevention and management strategies within the Trust's services and discusses rationale for the work.

Chapter 3, outlines the sequentially staged service evaluation, implementing an innovative new risk approach to pressure damage assessment, prevention and management strategies with concordant ethical considerations. The methodological approach and authors theoretical positioning is also discussed.

Chapter 4 reports the methodological approach and findings of Stage-1. qualitatively identifying and describing themes identified with presented supporting verbatim quotations.

Chapter 5, reports Stage-Two, and the integration of the innovative new risk approach to pressure damage assessment into the Trust's SystmOne (clinical IT system used to manage patient care). Findings from Stage-Three influencing integration are also reported.

Chapter 6, details the methodological approach and findings of Stage-3, qualitatively identifying and describing themes identified with presented supporting verbatim quotations.

Chapter 7, considers the body of work, its specific contributions and directs recommendations for future research.

1.2 Terminology

The work adopts the vernacular concordant with service evaluation. The terms pressure ulcers (PU) and pressure damage (PD) are used interchangeably throughout unless distinction is required.

1.3 Setting

The work took place in a Community Health Services NHS Trust providing services across [redacted]

The Community Health Services NHS Trust is referred to as 'the Trust' throughout.

2

LITERATURE REVIEW & BACKGROUND

2.1 Search Strategy

At project commencement, a comprehensive review of the literature was undertaken to ensure thorough identification of relevant information supporting the evaluation. Literature review remained an iterative ongoing process throughout the duration of the project. In summary, the reference list of each of the 21 studies supporting the implementation (see Appendix C) were 'snowball' hand searched to provide a provided foundation on which to develop key literature search terms. Titles were identified as relevant for further review when containing reference to 'PURPOSE-T' 'Pressure ulcer assessment', 'Pressure damage assessment' 'Service innovation' and 'Service improvement'. Major electronic databases that included CINAHL Complete, The Cochrane library, Healthcare Databases Advanced Search (HDAS), Sciencedirect, Social Sciences Citation Index /Web of Science (Web of Knowledge) were searched using the key terms. Researchers in the field were contacted to source research when not freely available on the internet for example grey literature, article in press or in submission.

2.2 Introducing the Problem

Pressure ulcers (also known as pressure damage), are a complex clinical problem that are aetiologically multifactorial (EPUAP/NPUAP, 2009). Pressure ulcers (PU) occur when soft tissue, over a bony prominence is compressed on a hard surface for prolonged periods of sitting or lying. The skin and underlying tissue becomes damaged through the unrelieved pressure, or through the pressure in combination with shear (EPUAP/NPUAP, 2009).

Developing PU is a debilitating, chronic wound condition representing significant human suffering and treatment burden. Associated with continuous pain (Brigs et al., 2013) and distressing symptoms that can include odour, exudate, disfigurement and compromisation of physical functioning (Gorecki et al., 2009) additionally to impaired psychological and social functioning (Gorecki et al., 2013), reducing the quality of life for patients and their carers

(Rees et al., 2001). Severity of PU varies from non-blanchable erythema of intact skin (Category/Grade 1), to, superficial skin loss (Category/Grade 2) and destruction of skin, subcutaneous fat, muscle and bone (Category/Grade 3, 4 or un-stageable) (EPUAP/NPUAP, 2009) (see Appendix A). PU are often a complication of serious acute or chronic illness and associated with comorbidity and mortality (NHS Choices, 2015), hospitalisation and healthcare costs (HSCIC, 2015). Despite advances in prevention, treatment and management PU are (often) preventable and are recognised as one of the five most common causes of patient harm (HSCIC, 2015), believed to affect approximately 1 in 10 hospitals and 1 in 20 community patients (Kaltenthaler, et al., 2001).

2.3 Economic cost

The prevention, treatment and management of PU account for substantial direct and indirect costs to the health care economy (Kaltenthaler, et al., 2001, Severens et al, 2012). In 2004 it was estimated the NHS spends £1.4–2.1 billion the equivalent of 4% of its annual budget on the prevention, treatment and management of PU (Bennett et al., 2004) in acute and community settings. More recent statistics suggest the daily cost to the NHS for treating an uncomplicated PU, in addition to the costs of standard care, varies from £1,064 for a grade 1 ulcer to £24,214 for a grade 4 (Bennett, et al, 2012). These costs do not, however, reflect the cost to quality of life or the £560.3 million spent on NHS negligence litigation during 2005/6 (Parnham, 2011).

2.4 Measuring, Monitoring and Financial Targets

The prevalence of PU is considered a key indicator of care quality and patient safety (See RCN, 2015) thus is of interest to the Department of Health (DoH) and Quality Care Commissioners as a priority for improvement (Trust, 2013/2014). Healthcare services are being challenged to respond by improving efficiency, driving up quality and reducing levels of harm (Heath Foundation, 2013). Improving the quality of services is key to this agenda and is supported by quality accounts and Commissioning for Quality and Innovation (CQUIN) payment programme initiative (Power et al., 2012) which enables commissioners to incentivise service providers by paying a variable (yearly) proportion of the value of their contracts based on service quality and achievement of quality improvement and goals (Newton, 2010). Thereby, aiming to actively encourage an organisational approach focused

on continuous quality improvements. As such, the Trust's quality agenda aims to eliminate all avoidable PU within in its care.

The CQUIN payment framework can be worth millions of pounds (DoH 2010) with the Pressure Ulcer CQUIN worth 10% of the total CQUIN income when achieving PU prevention targets (Newton, 2010). A fall short of the PU CQUIN target is costly in terms of the '£500' fine imposed by the Strategic Health Authorities for each grade 3 and grade 4 PU reported, and the subsequent financial penalisation for failing to meet the CQUIN target (Newton, 2010). In addition to the costs of prescribed pressure relieving equipment and cost of delivery/return of the equipment, which as a cost is often written-off (Longstaffe, 2015).

A significant critique of the CQUIN payment framework is that it directly contradicts ambitions for harm free care, as announced by Andrew Lansley in his speech as Secretary of State for Health on 8th June 2010. Lansley stated, "achieving continuously improving health outcomes, will not be created by politically motivated process-driven targets or by demanding more data returns…I know these things either don't work, or work against improving outcomes, despite the best efforts of NHS staff, because they have been the approach of the last Government over 13 years". Yet the CQUIN framework was announced two years later which quantifies the beneficence and non-maleficence of clinical care.

2.5 Reporting Pressure Damage

Pressure ulcers graded as 2 or above are defined as reportable incidents (National Institute for Clinical Excellence [NICE], 2015). The Trust has an agenda to eliminate all PU for patients in it care and is committed to openness and transparency, thus, reports all newly acquired PU as clinical incident. All incidents of PU graded 2 or above developing after a patient is admitted to the service, are investigated. Grade 2 PU considered avoidable, necessitates investigation using a Root Cause Analysis framework (RCA), development of grade 3 and 4 PU requires immediate RCA and is reported as serious clinical incident (Longstaffe, et al., 2014, NICE, 2014). The RCA investigation seeks to retrospectively identify direct cause of PU development, differentiating between human error and systems approaches. From this leaning, an action plan is developed to prevent reoccurrence and inform policy development (McGraw and Drennan, 2014), ensuring the care commissioned by the Clinical Commissioning Group (CCG) maintains good health outcomes.

2.6 Pressure Ulcer Risk Assessment tools in Nursing

Prevention of PU is a multidisciplinary responsibility, with nurses at the forefront for caregiving. The Trust provides care to patients often with complex long term conditions within their own homes. The use of a validated pressure ulcer risk assessment tool (PURAT) for prevention assessment and management of PU is NICE recommendation (2014) and is supported by local clinical guidance (Longstaffe, et al, 2014). The PURAT is used to guide clinical decision making and identify patients in an early stage of PU development risk. As such, can be considered an essential part of the nursing process and quality of care patients ultimately receive (Guy, 2012). The Waterlow pressure ulcer risk tool (referred to as 'Waterlow'; 2005), is the tool of choice across the Trust. Waterlow outcome/score together with skin inspection and clinical judgement inform clinician's decisions for appropriate PU prevention and management strategies.

Waterlow was developed in 1985, for use in medical and surgical settings and is thought to be the most commonly used PU risk assessment tool (Thompson, 2005). It assesses: build/weight for height; skin type/visual risk areas; gender and age; malnutrition screening; continence and mobility. Additional areas are assessed in special risk patients: tissue malnutrition; nerve damage; major surgery or trauma. Three risk categories predict a patient's level of risk of developing PU; a 10-14 score identifies the patient to be at risk, a score 15-19 at high risk and a score 20 and above at very high risk (Waterlow, 2005). Within the Trust, PU preventions strategies are implemented for all patients identified at risk i.e. Waterlow score 10 or above. Care recommendations and resource allocation is based on the score generated and clinical judgement. Therefore, it is, crucial, the PURAT used to identify risk of PU development is effective, reliable and accurate, to ensure preventative/management strategies introduced are fitting. Ensuring, resources are appropriately directed and clinicians can be confident the PURAT guides optimal patient care.

2.7 Rationale for Innovation

Despite the Trusts Tissue Viability Team's considerable work, over a number of years, patients continue to develop avoidable PU. It is important to acknowledge, the NHS Institute for Innovation and Improvement (2013) considers there are no 'avoidable' PU in NHS care. It is however, widely believed, not all PU are preventable. Indeed, to-date there is no conclusive evidence demonstrating PU are avoidable (Clarkson, 2007) certain circumstances, clinical conditions, physical and social factors may result in unavoidable PU development (Guy et al,

2013; see Appendix B, for the Trust's Avoidable/Unavoidable evidence indicators).

To meet the ever more complex clinical needs of patients and the elimination of PU agenda, current clinical, assessment, prevention and management strategies required close examination. Nurse led review of patient records and RCAs, evidenced development of themes surrounding pressure damage assessment, prevention and management strategies using Waterlow:

- Inaccurate completion, which when used in isolation can/has led to a lack of pressure ulcer prevention care planning and /or
- Over estimation of risk resulting in excessive provision of high specification pressure relieving equipment and ongoing monitoring
- Length of time spent completing the Waterlow tool for patients clinically judged as not at risk of pressure ulcer development
- Reliability of Waterlow

2.8 Pressure Ulcer Risk Primary or Secondary Evaluation Tool (PURPOSE-T)

The transformation of the Trust's current pressure damage prevention management and care strategies requires the implementation of innovative new pathways. Innovation, or the first time adoption of an existing idea, has long been considered vital for improving service delivery across clinical services (Greenhalgh et al, 2004a). Over 40, PURAT's have been developed over the last 40 years, varying in the way they were informed and developed for example, by literature review, expert opinion, or adaptation from an existing scale, which in turn, has led to identification of risk factor inconsistency (Nixon et al. 2015). The development of a new innovative approach to PU risk assessment is therefore, timely. The Pressure UlceR Programme Of reSEarch (PURPOSE) funded by the National Institute for Health Research (NIHR) to date (August 2015) comprises a programme of 21 studies undertaken by the University Leeds and a team of international inter-disciplinary experts, clinicians and service users (see Appendix C) that includes the development of the Pressure Ulcer Risk Primary or Secondary Evaluation Tool better known as PURPOSE-T.

Unlike other risk assessment tools, PURPOSE-T identifies PU risk or presence. PURPOSE-T incorporates a unique screening stage which promptly eliminate patients identified as not at risk, saving time in practice and unnecessary equipment provision. Care planning is pre-emptive and a response to a patient's risk profile, rather than, care planning as a response to a

numerical scale. Clinicians are actively supported and encouraged to use clinical judgement and knowledge of the patient to guide care planning. A colour-coded 'traffic light system' indicating risk factor weighting, further supports clinician's decision making processes and by guiding appropriate care pathway allocation:

- Primary prevention - identifies patients at risk but currently exhibiting no evidence of PU development
- Secondary prevention and treatment - for patients with an existing PU or scarring from previous PU
- Currently not at risk

Marking 'a new approach to the assessment of pressure ulcer risk" (Coleman 2014, p.212).

2.9 Joining The Movement

Implementation of PURPOSE-T was dependent upon developing strategic partnerships with the NHS Trusts discussed section 3.5 to improve the effectiveness and efficiency of implementation before the process began. These partnerships aided identification of/and established, essential elements for successful implementation. Of particular note, were the need for significant investment in educational time support, training and key resources. Joining the PURPOSE-T movement was further supported by discussions with a research team active within the Trust utilising PURPOSE-T (paper version) within its methodology.

3

METHODOLOGY & THEORETICAL FRAMEWORK

3.1 Methodological Overview

Implementing innovation in healthcare is enormously complex (Greenhalgh et al., 2004a). Local contextual factors, the influence of professional boundaries, established ways of working, compatibility and/or the innovation's relevance to practice, can inhibit or transform innovation implementation (Damschroder, et al., 2009). Where there is little or no previous knowledge supporting an innovation it is difficult to improve clinical services (Weiss, 1998). A qualitative methodological approach, can be considered, an essential precursor to further research, when salient local issues surrounding new service provision are unknown. Particularly when considering the flexibility, a qualitative approach affords, for holistic contextual elucidation, rather than the simplification imposed by quantification (Barker et al, 2002).

The implementation is supported by a three-staged inter-related process, comprising: Stage-1; A purpose designed survey and thematic analysis (TA; Braun & Clarke, 2006) to explore elaborate a comprehensive understanding of human factors surrounding clinician's perceptions of their current clinical practice, using Waterlow for the assessment, prevention and management of pressure ulcers (PU). Stage-Two; the implementation of Pressure Ulcer Risk Primary or Secondary Evaluation Tool (PURPOSE-T; 2013); a new and innovative pressure ulcer risk assessment tool (PURAT) into clinical practice. Stage-Three; A focus group and TA is used to explore perceptions and interpretation of using PURPOSE-T, to bring together understanding surrounding the complexities of human factors fundamental to successfully innovating clinical practice and develop insight and direction surrounding PURPOSE-T SystmOne integration and implementation.

3.2 Theoretical Positioning

The paradigm of positivism has historically influenced evaluation research as evaluators traditionally have sought to objectively assess the extent to which services have fulfilled their

stated goals (McEvoy & Richards, 2003). The evaluation presented here, moves toward more conceptual diversity and represents an aim to explore PU assessment factors located within sociocultural context and is positioned within a broadly contextualist framework characterised by Critical Realism (CR) (Braun & Clarke, 2006). In that, it sits between essentialism and constructionism, combining critical realist theoretical ontology (theory of being), with interpretive epistemology (theory of knowledge) (Clarke 2008). There is no attempt to search for a singular empirically valid objective universal truth, through application of 'the scientific method' (Gerrish & Lacey, 2015) or explain complexities by referring to an "inner truth or essence" (Taylor & Usher, 2001). Equally, there is no assumption of a unitary, fundamental and rationale underlying pattern of exposition 'ordained by nature itself' (Taylor & Ussher, 2001). CR (alternatively termed transcendental, complex or scientific realism (Moses & Knutsen, 2012), recognises reality as complex, influenced by individual and environmental factors that are mediated by language, culture, historical and political influences (Usher, 1999). Adopting a critical stance, towards 'factual truth', meaning is rooted in and constrained by, wider factors surrounding the individual whether recognised by the individual or not and is therefore, intrinsically linked as externally descriptive and as constitutive (Sayer, 2000). There is nothing inherent to CR positioning directing theoretical, qualitative, or quantitative methods. Given the philosophical constraints of positivism and constructivism, CR provides an attractive philosophy, that is pragmatic and useful for multi-disciplinary, 'real world' evaluation. A strength of CR, is its permissivism of epistemological and methodological flexibility (Usher, 1999). Therefore, it is particularly well-suited to exploring and understanding the complexities underpinning and explaining why trends exist or why services perform the way they do (Clarke, 2008). Particularly when considering healthcare is neither a stable nor value-free environment that easily lends itself to prediction, control and measurement (Clarke et al, 2005). Identifying the philosophical positioning underpinning this evaluation is important, because it locates the methodology within epistemological and ontological paradigms and supports data analysis (Braun & Clarke, 2006).

3.3 The Qualitative Approach

Qualitative research can be undertaken from numerous epistemological and ontological methodological perspectives that are complex, diverse and nuanced (Holloway & Todres, 2003), with each approach having its own benefits and limitations. The ontological principals of CR were antecedental to the development of the epistemological assumptions and

methodological approach. Importantly, the data collection methodologies are recognised as interrelated and equally conducive with providing human factor focused case for explanation. Therefore, a singular, theoretically flexible, data analysis methodology is required, that acknowledges the mutually influential relationship between individuals making meaning of their experience and the wider sociocultural context influencing those meanings and further, places strong importance on understanding reality through rigorous description, conceptualisation, and convincing explanation (Clarke, 2008).

Both Interpretive Phenomenological Analysis (IPA; Smith et al., 2009) and TA explore the lived experience and both approaches could have been suitable for the analysis. IPA is grounded in phenomenological epistemology which focuses on developing detailed understanding of the personal experience of reality to understand the phenomena in question (Smith et al., 2009). IPA was not considered a suitable approach to the evaluation, because of the specific interpretive connections to theories of interpretation and it detailed focus on personal reality (Smith & Osborn, 2009). In contrast, TA can be used across the epistemological and ontological spectrum (Braun & Clarke, 2006) and is primarily concerned with characterising and summarising perceptions and lived experiences within a broader sociocultural context, this is an important feature when exploring salient local issues surrounding healthcare innovation (Joffe, 2012) and is therefore, is well suited to the theoretical assumptions of the evaluation.

3.4 Establishing Quality

Without rigour, research is worthless (Morse et al., 2002). Demonstrating rigour in qualitative inquiry corresponds with the degree to which it is accepted as sound, legitimate and authoritative by the people with an interest in the research (Yardley, 2008). Qualitative methodology is inherently subjective and must take steps to prevent credibilizing the traditionally minded censure, “anything goes” (Antaki, et al, 2002 p.7). it is beyond the scope of the current work to widely debate issues surrounding ‘reliability’ and ‘validity’ in quantitative research. It should however briefly be highlighted; the traditional quantitative criteria of evaluation are not easily transferable to qualitative methods (Barker et al 2002). Further, validity and reliability are not fixed single, or universal concepts, rather expressions of the quantitative paradigm (Reicher, & Taylor, 2005) and have been replaced over the last 20 years with standards and criteria evaluating significance, relevance, impact, and utility (Morse et al, 2002).

Validation of qualitative findings is contingent to the kind of 'reality' sought or expected (Winter, 2000). With no one 'accurate' way to analyse data, analysis is flexible and organic, each person approaches data with their own goals and perspectives, therefore 'sees' and analyses differently (Bazley & Jackson 2013). It is, therefore, inevitable and inescapable that the analysis bears the mark of the analyst (Braun & Clarke, 2013). This subjectivity has been argued as problematic Morse et al., 2002). To address this issue, reflexivity is an important part of the analysis, as is acknowledgement of influences on the analyst. For this reason, recognition of author positioning is as important as the inclusion of written notes within the coding process. Therefore, the exploratory and explanatory power of this evaluation lies in that: it is undertaken using the clear procedures outlined by Braun and Clarke (2006); it is transparent in documentation of process and decision making; interpretations are congruent with theoretical assumptions and it provides information on which an informed assessment of credibility, relevance and utility of interpretations and conclusions can be made.

3.5 Ethical Considerations

In line with the Health Research Authority (HRA), Defining Research Guidance (2013), service evaluation does not require formal ethical approval when deemed as "designed and conducted solely to define or judge current care and involving…an intervention in use only.…and…may include administration of interview or questionnaire" (HRA, 2015). As such, the project is defined as service evaluation.

Although the project did not require formal ethical approval, local R&D consulted to ensure all local policies concerned with implementing new practices for the intention of service quality improvement were adhered. A preliminary summary of the evaluation was presented to Trust review committees for approvals before the evaluation commenced (see Appendix D) and was conducted following ethical principles that included: informed consent, avoidance of harm and confidentiality.

The evidence-base for PURPOSE-T is in its infancy and has a limited published literature evidence-base. Therefore, the evidence supporting the implementation, is derived from the research study active within the Trust utilising the innovation, within its methodology and awareness of adopting NHS Trusts which include:

Leeds Teaching Hospitals NHS Trust
Leeds Community NHS Trust

Pennine Acute Hospitals NHS Trust
Kent Community Health NHS Trust

3.6 Computerised Assistance

The qualitative data analysis software package NVivo 10 (QSR International, 2014) was chosen for data management because it:

- Facilitates efficient work with textual data
- Supports a wide range of methodological approaches
- Provides an auditable data analysis process
- Aids organisation of material
- Facilitates thorough data interpretation through complex data manipulations

Many commentators are suspicious of computer assisted qualitative data analysis, critiques posit, researchers may be distanced from their data (Gilbert 2000), or guided in a particular direction (Richards, 1998) and that data analysis software only supports grounded theory (Tesch, 1990) or encourages researchers to create their own approach to analysis (Bazeley & Jackson, 2013). NVivo provided invaluable support, facilitating data collation and the organisation of data sets (data collected from a specific methodology) and the data corpus (all data collected) into themes (patterns). An important feature of computer assisted analysis is flexibility of the coding (patterns) identification system and the ability to retrieve contextualized data as themes.

3.7 Evaluation Development

Planning and development of the evaluation was liaised with a Research and Development Manager and a panel of Expert Tissue Viability Healthcare Professionals (See Appendix E).
Grounded in the themes identified within the Trust conducted RCAs, a qualitative focused, three staged evaluation strategy, exploring human factors surrounding PU practices before and after implementation of PURPOSE-T was deemed an optimal approach for exploring whether the implementation strategy should be continued in its current form, altered, or expanded in consideration for a Trust-wide rollout of PURPOSE-T.

3.7.1 Evaluation Stages, Approach & Objectives

Stage-One

- Approach: Develop and administer a purpose-designed survey questionnaire targeting clinical staff using Waterlow
- Objective: Identify and understand clinician's perspectives and influences on current, PU risk assessment, prevention and management practices using Waterlow

Stage -Two

- Intergrate PURPOSE-T into the Trust's SystmOne, clincal system
- A team of six clinicians, incorporate PURPOSE-T as standard practice, for pressure ulcer (PU) risk assessment, prevention and management

Stage -Three

- Approach: Four weeks post-implementation conduct a focus group with the six pilot clincians
- Objectives:
  1. Identify and understand clinician's perspectives and influences on assessment, prevention and management strategies using PURPOSE-T
  2. Revisit education around PU assessment, prevention and management and develop a strong training package to support a Trust-wide rollout of PURPOSE-T
  3. Address difficulties, streamline and localise within SystmOne before rollout
  4. Provide robust evidence to support a Trust-wide rollout of PURPOSE-T as standard practice

4

STAGE-ONE SURVEY & FINDINGS

4.1 Survey Methodology

Qualitative survey, is a key healthcare services research method for collecting rich and in-depth data, particularly when identifying perceptions and attitudes (Parsley & Corrigan, 1999) is are considered indispensable in the early stages of exploring salient local issues (Weiss, 1998). As a data collection methodology, surveys proffers several benefits; they can be completed unaided, expression can be rich, deep or vague, language, tone and descriptive length is unrestrained; anonymity can lead to greater freedom of expression and elicit more rich in-depth data and interviewer effects can be eliminated. Further, they are relatively inexpensive (Braun et al., 2013) and can facilitate easier access to respondent samples. A disadvantage of survey methods is the design can influence quality of the results. For example, respondents can be influenced by socially desirability (Barker et al, 2002) and the language used and overall length can cause completion difficulties and poor response rates (Retzer et al, 2004).

4.2 Terminology

The term ‘survey’ is used to denote data collection methodology, whilst ‘questionnaire’ is used and recognised as referring to the structured series of written questions administered, i.e. the data collection tool.

4.3 Questionnaire Construction

Tissue Viability Nurse led, review of RCA reports and follow-up discussion, produced clearly defined objectives, with a pool of key themes, and statements to support questionnaire development. First-draft questions were developed from the pool and discussed with the panel of Expert Healthcare Professionals (Appendix E). Consensus defined which first-draft items required refinement. Second-draft questions were refined, discussed and finalised for questionnaire inclusion. Following the guidance of Patten (1998), a limitation for five open-

ended items was accepted as adequate and in-exhaustive for capturing the lived experience through self-report and retrospection. The Expert Healthcare Professionals established representativeness and content validity of finalised questions. Further, their consensus and questionnaire completion established the finalised questionnaire questions were tonally and language appropriate, neutrally worded, unbiased in nature and adequately captured aspects of Waterlow usage.

The Experiences of Using the Waterlow Pressure Ulcer Risk Assessment Tool (EUWT-Q) self-completion questionnaire, was developed specifically for the evaluation, with an aim to understand clinician's perspectives, practice and attitudes associated with current pressure damage assessment, prevention and management strategies using Waterlow. Consisting of nine questions: demographical data (e.g. professional role and length of time using Waterlow), three yes/no closed-questions with request for response explanation, five open-ended questions and lastly, free expression asking, "Is there anything you would like to add …?" this was anticipated to capitalise on respondent's natural tendency to consider previous answers, encourage candid expression of opinions not captured within previous questions and highlight issues of importance (Patten, 1998). Open and closed questioning was anticipated to capture comprehensive responses that represented the experience of clinical practice using Waterlow for the assessment, prevention and management of PU (See Appendix F, EUWT-Q and Development Process).

4.4 Anticipated Speed of Questionnaire Completion

EUWT-Q completion time was anticipated as 5-10 minutes, assuming as per Krueger (2015) calculations, on average questions can be completed at a rate of:

Nine-questions

- 3x closed-questions = 1.5-2 minutes
- 5x open-ended questions = 2.5-3 minutes
- 1x multiple-choice = 30 seconds

Time required to complete the questionnaire was deemed acceptable and minimally invasive on clinical or leisure time.

4.5 Data Collection

A well-known online, survey administrator was used to format and host the EUWT-Q during November 2015, prior to the implementation of PURPOSE-T. Questionnaire appearance/design was limited to the service's pre-set determinants. Seventy-nine clinicians using Waterlow within their clinical practice were invited by email to voluntarily complete the EUWT-Q, through Trust internal administrative systems. Initiating contact through internal administration systems was deemed optimum strategy because:

1. Trust administration initiate contact, providing optimum access to clinicians
2. Targeted contact
3. Familiarity - clinicians easily respond to internal system requests
4. Hosting administrator frequently used by Trust for data capture. Implying the Trust was confident the online service met NHS data collection, storage and handling standards as outlined in its Data Protection and Confidentiality Policy (see Trust, 2013)
5. Clinician awareness of how to use online service

A screensaver hosted on local internal computer systems, advertised a request for clinicians to complete the questionnaire during the 4-week questionnaire 'live' period (Appendix G). Reminders for questionnaire completion were sent to clinicians 2.5 weeks after survey launch via the internal administrative system. A very good response rate was achieved (Babbie, 1990). Of the 79 invited clinicians, 59 (74%) completed the EUWT-Q and as such, following conventional wisdom, procured good data quality (Babbie, 1990). Therefore, the voices of this purposive sample establish representativeness and support generalizability of outcomes.

4.6 Survey Data Management

Questionnaire responses were extracted from the survey administrator website as an Excel file and imported directly into NVivo.

4.7 Clinician Characteristics

No personally identifiable data was intentionally collected. Clinicians were employed as clinicians across the Trust and used Waterlow in their daily clinical practice. Respondents were predominantly Community Nurses (CN) (64% n=38), with Nurse Specialists (NS) and Other Professions (OP) being equally least represented with 4 (7%) clinicians each. Clinicians had a high level of Waterlow experience, with the majority having more than 15+years

experience (42% n=25), See Table 1. Clinicians Characteristic Profile.

All clinicians except one Healthcare Support Worker (HS) stated they had used Waterlow. Although the respondent had not directly used Waterlow, their response remains contextually important because the HS job role is exposed to Waterlow through the supportive to superiors, nature of the job role. Perceptions and behaviours of an individual can influence or act as an 'anchor' for the subsequent experience and perceptions of another (Tversky & Kahneman, 1974; Bargh et al, 1996). This is particularly strong when perception and behaviours are that of an adept or superior (Bargh et al, 1996; Greenberg, 1990; Kahneman, 2011). Thus, perceptions of Waterlow usage are likely to have developed, even if not yet directly used in clinical practice.

It is anticipated developing reader understanding of clinician characteristics will enable the identification of important biographical elements of the data sample excerpts. Moreover, it will credibilize the representativeness and plausibility of the clinician's voices and the generalizability of their experiences and perspectives.

Table 1. Clinicians Characteristic Profile.

	Time Using Tool in Years				Total	%
Job role	0-5	6-10	11-15	15+		
Community Nurses (CN)	5	7	6	20	38	**64%**
Nurse Specialists (NS)	1	0	1	2	4	**7%**
Therapist (TH)	4	0	1	0	5	**8%**
Healthcare Support Worker (HS)	7	1	0	0	8	**14%**
Other Professions (OP)	0	1	0	3	4	**7%**
Tot	17	9	8	25	59	
Percent	**29%**	**15%**	**14%**	**42%**	100%	

4.8 Key Code

The referencing strategy presented in Table 2, was used to identify clinician contributions. Clinicians were assigned a unique identification code, represented by Job Role code, Time Using Waterlow, and a unique identification number. For example, clinician CN0562 is a Community Nurse, in their role 0-5 years and uniquely identified as 62.

Table 2. Clinician Characteristics Identification Key Code

Job Role		Waterlow Effective		Time Using Waterlow	
CN	Community Nurse	**1**	Yes	**05**	0-5 years
NS	Nurse Specialist	**2**	No	**60**	6-10 years
TH	Therapist	**U**	Unknown	**11**	11-15 years
HS	Healthcare Support Worker			**15**	15+ years
OT	Other Professions				

4.9 EUWT-Q Completion Time

The completion time assumptions outlined section 4.3 were supported. More than 66% completed in less than 10 minutes and 12% took longer than 20 minutes to complete (See Table 3).

Table 3. EUWT-Q Completion Time in Minutes

Job role	Completion Time in minutes							Total
	< 5	5-10	10-15	15-20	20-25	25-30	30 >	
Community Nurses (CN)	9	21	5	0	1	0	1	37
Nurse Specialists (NS)	2	0	0	1	1	0	0	4
Healthcare Support Worker (HS)	3	2	2	0	0	0	1	8
Therapist (TH)	0	0	5	0	1	0	1	7
Other Professions (OP)	1	1	0	0	1	0	0	3
Response Total	15	24	12	1	4	0	3	
Response %	25%	41%	20%	2%	7%	0%	5%	59 100%
Time span Combined	39		13		7			
Time span Combined %	66%		22%		12%			

4.10 Question Completion Rates

Overall, the EUWT-Q yielded a total of 456 responses, (see Appendix H). Not all clinicians answered all questions and responses ranged from a few words to a short paragraph. Only the first 3 questions yielded 100% response rate. The last question, (Question-9) which invited free expression asking “Is there anything you would like to add about your experience…?” yielded the highest non-response rate (49% n=29), which can be interpreted in two distinct ways. Firstly, respondents experienced survey fatigue, reflected by the high non-response rate. Secondly, questions were sensitive to survey aims. Narratives demonstrated, respondents considered questions were sensitive to survey aims, 15% (n=9) of those responding to the

question stated “no” they had nothing to add to their response and “think I have explained above…” (CN1515) reflects.

4.11 Generating Themes

The analysis is informed through an inductive approach within a broadly critical realist or contextualist framework (outlined section 3.2) and adhered principles of a Thematic Analysis (TA) six-phase recursive process (Braun & Clarke, 2006; see Appendix I). with themes the developed strongly linked to language, concepts and relationships of meaning, aiming to reflect contradictions and complexities or ‘messy reality’. In summary, the analytic process is conducted across the dataset and requires the analyst immerse themselves, reading and re-reading the data before identifying and analysing patterns of meaning in the dataset. Codes (patterns) are then identified as themes and are presented in reflection of that which is ‘key’ to understanding meaning, with sub-themes and identifiers establishing the foundation of themes.

4.12 Theme Generation Process

Firstly, codes were, identified within question-by-question group collections and codes were identified as direct semantic representations, either in vivo, i.e. the code is an exemplar of text, or as patterned observation. Secondly, conceptually driven ideas and assumptions underpinning explicit content were coded. The first coding round identified 203 codes grouped question-by-question. In the second round of coding, initial codes identified were temporarily disregarded; the data were reread, interconnecting relationships across the dataset were developed and first impressions of themes encapsulating codes developed. Inconstant and divergent content was also coded and grouped in relation to development of sub-themes. In this phase, 12 themes with 78 descriptive and conceptual sub-themes were identified (see Appendix J). Finally, guided at a semantic level and conceptual interpretative level, first round codes were explored in relation to second round codes, overlapping codes were meaningfully grouped and merged to become overarching themes across the dataset. Themes and sub-themes were defined and refined to add more detail, be non-repetitive and broad enough to capture the ‘essence’ of conceptualisations and explicit content, without being overly complex or diverse (Braun & Clarke, 2016). This process, led to the identification of 33 identifying concepts that grouped into 3 interrelated ‘key’ themes (See Appendix K).

4.13 Contextualisation

Analysis aims to understand complexities associated with Waterlow usage in clinical practice, not focus directly on response to particular questions. The EUWT-Q however, deliberatively solicits yes/no 'positioning', this is considered first, providing the reader contextualisation even if paradoxically different to analysis themes. Direct solicitation of yes/no 'positioning' toward perceptions of Waterlow reliability reveals overall, 56% (n=33), perceived Waterlow to reliably predict risk (presented Table. 4) and that job role influences perceptions of reliability. Community Nurses (CN) were the most favourable perceiving Waterlow reliable predicting risk (36% n=21) whilst TH (7% n=4), perceived Waterlow unreliable reliable predicting risk. Time spent using Waterlow was also an important influence on perceptions of Waterlow reliability predicting risk (Appendix L). Clinicians with 11-15years experience (63% n=5) perceived Waterlow the most favourably, whilst those using 6-10 years considered Waterlow unreliable reliable predicting risk.

Table 4. Do You Think Waterlow Is Reliable for Identifying Risk?

Job Role	Yes	%	No	%	Skip	%	Count	%
Community Nurses CN	21	36%	17	29%	0	0%	38	64%
Healthcare Support Worker HS	5	8%	2	3%	1	2%	8	14%
Nurse Specialists NS	3	5%	1	2%	0	0%	4	7%
Other OT	2	3%	0	0%	1	2%	3	5%
Therapist TH	2	3%	4	7%	0	0%	6	10%
Total	33		24		2		59	
Percentage	56%		41%		3%			

Direct solicitation of yes/no 'positioning' toward perceptions of Waterlow effectiveness guiding care planning were the most dichotomized (presented Table 5). Overall, 42% (n= 25) perceived Waterlow to effectively guide care planning, whilst 39% (n= 23) perceived it did not. Community nurses (CN) were the most favorable perceiving Waterlow effective guiding care planning (32% n=19). The NS and TH were equally the largest user groups considering Waterlow ineffective guiding care planning (3% n=5). Time spent using Waterlow was also an important influence on perceptions of Waterlow effectiveness guiding care planning. Clinicians with 6-10years experience (56% n= 5) were the largest user group considering Waterlow effective guiding care planning. The longer Waterlow was used however, clinicians became more dichotomised toward considerations of effectiveness with 15+years of use

resulting in greater perceptions of ineffectiveness than effectiveness (48% n=12; See Appendix M).

Table 5. Do You Think Waterlow Pressure Ulcer Risk Assessment Tool Effectively Guides Care Planning?

	Yes	%	No	%	Skip	%	Count	%
Community Nurses CN	19	32%	16	27%	3	5%	38	64%
Healthcare Support Worker HS	2	3%	0	0%	6	10%	8	14%
Nurse Specialists NS	1	2%	3	5%	0	0%	4	7%
Other OP	2	3%	1	2%	1	2%	4	7%
Therapist TH	1	2%	3	5%	1	2%	5	8%
Total	25		23		11		59	
Percentage	42%		39%		19%			

Experience of difference between clinical judgement and Waterlow assessment outcome was well represented throughout the data. Seventy-six percent of clinicians had experienced a difference between their clinical judgement and Waterlow outcome score with CN experiencing the most difference and TH the only job role not to report a difference (Table. 6.). The longer spent using Waterlow, the greater the likelihood of experiencing difference (Appendix N) at 15+years of use all clinicians responding to the question, had experienced difference. Overall, 14% (n=8) reported no experience of difference between their clinical judgement and Waterlow outcome score (see Appendix N).

Table 6. Experiences of Difference Between Clinical Judgement & Waterlow Pressure Ulcer Risk Assessment Tool Score Outcome

	Yes	%	No	%	Skip	%	Count	%
Community Nurses CN	31	53%	4	7%	3	5%	38	64%
Healthcare Support Worker HS	5	8%	2	3%	1	2%	8	14%
Nurse Specialists NS	3	5%	1	2%	0	0%	4	7%
Other OP	2	3%	1	2%	1	2%	4	7%
Therapist TH	4	7%	0	0%	1	2%	5	8%
Total	45		8		6		59	
Percentage	76%		14%		10%			

4.14 Themes Identified

The EUWT-Q yielded rich, divergent responses. Within this diversity, there was commonality of experience dichotomy and interrelatedness of themes identified. The three interrelated Key Themes; Confidence in Tool Supporting Clinical Decision Making, Cultural Context and Usability, are presented in order of 'keyness' with verbatim extract illustrating meaning. To a large extent themes overlap and when considered together comprehensively reflect clinician's perceptions and experiences of using waterlow in their clinical practice.

4.14.1 Key Theme: Confidence in Waterlow Supporting Clinical Decision Making

Clinicians need confidence in the pressure ulcer risk assessment tool (PURAT) they use provides accurate, complete and consistent assessment guidance, and is optimal for patient care. Themes surrounding Confidence in Waterlow Supporting Clinical Decision Making was prominently distinguishable across the dataset semantically and conceptually. Revealing clinician's feel there are more barriers toward perceptions of Waterlow supporting clinical decision making than perceptions of confidence in its reliability and effectiveness guiding patient care.

The primary aim of PURATs are to assist the identification of patients at risk of developing PU, determine the degree of said risk (Coleman, 2015) and ensure appropriate, cost-effective intervention is established to alleviate the risk (Walsh, & Dempsey, 2011) as one component of a holistic assessment (Anthony et al, 2010). For a tool to be considered reliable or assessment consistent, the same or similar results should be produced by different clinicians assessing the same patient (Coleman, 2015). The sensitivity accuracy or extent to which risk factors are correctly identified and classified (Defloor & Grypdonk, 2004) were widely criticised. Waterlow was widely perceived good for prompting and guiding clinical considerations and "…positive in identifying the potential risk" (CN0560). However, a stronger picture surrounding completion difficulties emerged. Narratives expressed confusion with interpretation of 'grey areas' (Waterlow, 2005) or ambiguously interpretable risk factor identifiers. This was widely perceived as problematic, particularly, when a risk factor could be interpreted differently within its own context or differently by different clinicians. This has resulted in, clinicians questioning their own judgement and seeking validation for their risk factor interpretations, as these clinicians explain:

"… other sections there is a choice of scoring which is often open to interpretation e.g. diabetes/stroke has a score from 4-6 which leaves room for error and difference of opinion when completing this in comparison to colleagues" (NS1112)

"Lots of phrases around the office by staff saying '' would you score 'x' for neurological? or would you class 'x' as an organ failure?" (CN6027)

The essence of Waterlow is to predict the risk of PU development (Waterlow, 2005), clinician's perceived Waterlow risk estimation as inaccurate and triggering unnecessary equipment prescription. Propensity for risk over estimation was also perceived as triggering inappropriate allocation of clinical facing time because protocol dictates, all patients with a Waterlow score 10 or above are reviewed at every visit regardless of the clinician's judgement of perceived risk:

"…seeing the patient and then seeing their Waterlow score, sometime do not match up. The patient can be in fairly good health and mobile, yet they can end up with a high Waterlow score meaning they require equipment which isn't always necessary" (HS0549)

"…some patients score high but are fully mobile, but due to high Waterlow score means we have to carry out a SSKINS on each visit which for diabetics this is on a daily basis this can be quite pointless for those patients that are obviously not at risk" (CN1515)

Waterlow was perceived as insensitive to health deterioration. The implication of this relates to the importance of PURATs to detect and reflect heath status change for clinicians. Insensitivity was considered to effectuate difficulties with documentation of process, when heath change had occurred and the score remained static, as the following excerpt exemplifies:

"…Chronic disease patients have high scores which do not increase significantly when their condition is deteriorating… if a patient has mild oedema, they score the same as severe oedema as there is no variation in scoring available… deterioration in clinical condition means more organ and tissue hypoperfusion and actually need a change in product frequently, would not see any change in Waterlow score to support this decision" (NS1558)

There is an implicit assumption, that regardless of clinical experience, clinicians will gather the same data, make similar patient care judgements, and that patients with similar needs,

follow similar care pathways and the use of a PURAT provides evidence on which to base and standardise practice (Kapp, 2013). In the widest sense, this is reflective of practice, after all, identification of patients who are at high risk of developing PU is crucial for effective PU management, because PU risk level determines necessary prevention strategies (Kottner & Dassen, 2010; Keller et al, 2002). It is however, unreasonable to assume, the outcome will always concur with the clinical picture developed by the clinician (Kapp, 2013) or, the assessment outcome replaces experienced clinical evaluation (van Gilder et al, 2008). Clinicians need to perceive the tool they use to assess, prevent and manage PU is valuable, appropriate and reflective of patient needs, for the tool to be considered efficacious. These narratives demonstrate, few clinicians have confidence in Waterlow to adequately support their clinical decision making.

4.14.2 Key Theme: Cultural Context

The Trust's working culture was strongly implicated in perceptions of clinical practices and was perceived as shaping clinical practices and behaviours. Culture and leadership can be recognised as indivisible (Schien, 2010). The Trust begins the process of culture formation through policies and protocols, thus, ultimately embeds and manipulates development of culture through its influence on shaping individual's behaviour and values (van Looy et al, 1998). If culture is recognised as, a pattern of beliefs and expectation shared by members of a group that have been socially constructed and transmitted (Schein, 2010) and that these beliefs, expectations shape individual's behaviour and provide meaning for experiences (Gerrish & Lacey, 2015). Then, clinician's narratives demonstrate, some degree of occupational culture formation has taken place.

4.14.2.1 Defensively Nursing

Impassioned responses stemmed from perceptions Waterlow use encouraged a 'nursing by numbers' approach to clinical care, in that pressure relieving equipment prescription perceived as grounded in assessment score outcome rather than clinical judgement:

> "I don't believe it is fit for purpose and it encourages nursing by numbers rather than good holistic assessment and using clinical judgement." (NS1558)

Clinicians also perceived Waterlow use to have evolved into one of constrained dictation, rather than part of an assessment process. This has influenced a working culture where

clinical judgement is overruled by Waterlow score outcome, resulting in a move toward a "nursing by numbers" defensive nursing strategy where "clinicians focus on the score rather than the needs of the patient" (NS1112).

"It is used as an assessment tool to beat us with as the bar is set to low… We used to use our clinical judgement when doing an assessment but now are too worried about the blame culture that we put in equipment in to houses were the patients are fully mobile but have high Waterlow score" (CN6040)

This fearful, consciously led strategy, focusing on Waterlow score for patient care has developed, as an ameliorative response to Trust imposed ramifications, should the patient develop pressure damage. This has resulted in widespread perception of pressure to prescribe equipment. Therefore, more and higher-grade equipment is being prescribed even when contradicting clinical judgement is evident as these clinicians describe:

""RCA process and CCG attitude is geared to blame clinician whatever their choice regardless of comorbid and frailty factors" (CN1537)

"...nursing practice seems to have become more defensive and nurses are ordering higher-grade equipment as fearful if pressure ulcer develops rather than using clinical judgement" (CN1122)

"It makes me over-prescribe. Even as a senior nurse with extensive clinical experience, the current climate and processes based on this score make it difficult not to prescribe just in case condition deteriorates between assessments as often faced with very high scores for people who I would not have identified as at risk based on my clinical judgement" (NS1558)

It seems counter intuitive that a defensive nursing strategy has not resulted in the elimination of avoidable pressure damage, because more patients are being prescribed more pressure relieving equipment. The solution to eradicating avoidable pressure damage is therefore, more complex than one of more pressure relieving equipment. From an economic perspective, propensity for Waterlow to over predict risk for some patients, is a serious and expensive limitation, highlighting there is potential for substantial savings through improved allocation of resources.

4.14.2.2 Need for Change

Clinician's narratives revealed deep frustration, lack of confidence and professional disempowerment, which were perceived as stemming from the use of Waterlow. Exposing incongruence between clinician's professional philosophy's and actions. Clinicians narratives demonstrate, they are aware current clinical strategies are counterintuitive and are directly linked to defensive nursing. As such, they directly request replacement of Waterlow with a tool that factors nuanced patient need as these CN describe:

"…[the zero PU agenda] created an environment of fear which has created a need to over prescribe pressure preventative equipment to those patients scoring high but who do not necessarily require the equipment. This has become acceptable practice to prevent avoidable pressure damage and not what may be best practice for the patient" (CN1535)

"…the Waterlow Tool is dated and it is time to look at a tool that is based on more up to date evidence in relation to risk factors. The Waterlow is time consuming, open to interpretation and does not reliably prioritise the risk factors that are particular to that patient. I believe it is seen as a tick box exercise, another template that HAS to be completed rather than a tool to aid care planning" (NS1112)

"Please replace it as soon as possible" (NS1558)

The effect of the Cultural Context culminates in a group of clinicians perceiving the Waterlow to have eroded their confidence to make clinical decisions and freedom/autonomy to act in accordance with their own professional knowledge base. The connection between clinician's behaviours and Trust culture were clearest, surrounding perceptions toward a propensity for Waterlow to over-predict risk for some patients. This propensity has strongly impacted and influenced the socio-political working environment and resulted in perceptions of the working culture creating barriers to clinical autonomy and establishing patterns of defensive nursing as a self-protective response rather than, foremost, in the interest of the patient.

4.14.3 Key Theme Usability

Exploring perceptions of elements clinicians find easy and difficult within the technological systems they use, was paramount for identifying influencing factors toward acceptability of innovational change. Overall, Waterlow within SystmOne was perceived as easy to use, because of the tick box format. Tick boxes were however, perceived as limitative. The

recording of patient information was perceived as requiring more than tick box data alone and the addition of a textual functionality was widely suggested:

"Tick boxes are easy but do not always encompass all that is needed, need to add this into summary afterwards if further information to add" (OT1518)

Difficulties with usability were associated with the assessment process rather than the format of the tool itself. Identification of risk factors was perceived particularly problematic, adept clinicians, perceived more novice clinicians to struggle identifying particular risk factors and that incorrect identification or incorrect Waterlow completion led to widely inaccurate outcomes, rather than the format of the tool itself being cause for difficulties.

“Tick boxes make it easy to use and the written prompts remind you what to look for when assessing patients” (CN1561)

“It is easy to complete generally but there is too much variation in use of some factors…” (NS1558)

“…newer staff seem to be fazed by specifics on it” (CN1511)

"If miss an area can make a big difference to score E.G. if don't tick the organ failure etc" (OT1546)

It seems, clinical assumptions surrounding PU preventative and management strategies are well grounded in the information produced by the PURAT. Although, a tick box format is easy to use, accurately and adequately recording patient data requires more than a simplistic format.

4.15 Post Survey Considerations

It is recognised that the development of a questionnaire is difficult and there is likelihood of the developer influencing and biasing findings. Question developers can unconsciously design questions with implicit predetermined ideas that are ultimately biased toward the developers aims. The design of the survey may have been visually off-putting due to the size of empty box displayed on screen (see Appendix P) one participant responded

“it is a little lengthy with all the open questions which put me off initially” (CNE2CL)

"Respondents want to give the best information they can, so it is incumbent on the researcher to facilitate this process by developing questions that are clearly formulated and precise" (McColl, et al, 2001, pp.44-45). Question non-response rates i.e. questions skipped, are indication of how understandable and acceptable questions are. The questions "What features of the Waterlow Pressure Ulcer Risk Assessment Tool are the easiest and most difficult to complete?" (Question-4) and "What do you think are positive and negative features of the Waterlow Pressure Ulcer Risk Assessment Tool?" (Question-6) were doubled barrelled and may have resulted in confusion. This is demonstrated by a 20% (n=12) non-response rate per question (See Appendix H). Learning from these findings can be implemented and the EUWT-Q be restructured should further research opportunities arise.

4.16 Discussion

When contextualising the yes/no positioning elicited by the EUWT-Q perceptions toward Waterlow reliability and effectiveness paint a favourable picture. Upon close examination of clinician's narratives, the rich descriptive picture becomes that of a problematic, inaccurate PURAT, which overall, affects the interpretability of assessment outcomes and clinicians Confidence in Waterlow Supporting Clinical Decision Making. The functionality of Waterlow within technological systems is simplistic and limitative, it is however considered an easy format to use. It assists clinicians identify and ameliorate risk factors, but does not seem to infer accuracy, or develop clinical confidence by promoting the use of clinical judgement and autonomy. A Cultural Context is highlighted as playing a clear role in the difficulties experienced, culminating in a group of disillusioned Defensively Nursing clinicians, that have become, fearful and feel pressure to prescribe pressure relieving equipment. As such, these professionals lack clinical decision making confidence and feel professionally disempowered, thus they outright request change.

5

STAGE-TWO IMPLEMENTING THE INNOVATION

5.1 The Importance and Purposes of Preliminary PURPOSE-T Usage

Pilot studies can be used in two different ways, firstly, as a mini-version or 'dummy run', in preparation for a large research project or secondly the 'trying out' of an instrument (Gerrish and Lacey 2006). This is an important part of the process of informing and implementing new healthcare practices. In this way, the piloting of a new instrument can be informed through 'on the job learning' (Robson, 2002). As such, the piloting of PURPOSE-T firstly, informs considerations surrounding PURPOSE-T integration into SystmOne, highlighting issues surrounding usability, providing advance warning of potential for difficulties or failures and opportunity for refinement before wider implementation. Secondly, preliminary PURPOSE-T usage, provides foundation for Stage-Three exploration into the human factors surrounding the pilot.

5.2 PURPOSE-T SystmOne Integration

SystmOne is the computer system used by the Trust's healthcare professionals to record and share patient information securely across services and ensures every healthcare professional involved in a patients' care, has access to the most up to date information (The Phoenix Partnership (TPP), 2015). The Trust has a vision to become paperless (Trust, 2014), therefore, a fundamental prerequisite for innovation success, was PURPOSE-T integration into SystmOne, before the pilot commenced. Trust formal approval was obtained for PURPOSE-T to be integrated into SystmOne. This required written request and consultation with the Trust's SystmOne Clinical Champion Group for the approval of PURPOSE-T integration into SystmOne (Appendix O).

It is important to note, different teams working in differing NHS Trusts, developed the paper and SystmOne versions of PURPOSE-T. The University of Leeds and Leeds Teaching Hospital NHS Trust authored the paper version, whilst, Leeds Community Healthcare NHS Trust authored the SystmOne compatible version. The Trust became one of the first NHS

Trusts to become users of PURPOSE-T on SystmOne. Little is known about PURPOSE-T SystmOne integration and implementation practices. PURPOSE-T on SystmOne, due to limitations of SystmOne software, is visually different to the paper version of PURPOSE-T (see Appendix Q). Further, there are different data capture approaches used in SystmOne. To highlight, the Trust typically uses template, formatting and Waterlow is formatted as a one-page template, with drop down boxes. PURPOSE-T within SystmOne is formatted as a questionnaire, with individual assessment pages. The Trust has a long history of one-page template format use. The PURPOSE-T format was anticipated to be an acceptability barrier, because comparatively, the PURPOSE-T format could be considered, lengthy, cumbersome and unintuitive.

5.3 PURPOSE-T on SystmOne

Permission was granted for the Trust to develop their own SystmOne PURPOSE-T template if the page-led format, did not meet Trust's requirements. Prior to integration, the development of a PURPOSE-T template version was widely explored with the Trusts SystmOne team. Many technical difficulties were encountered in the pursuit of developing a template based version of PURPOSE-T. Although a template would be visually more appealing, it became apparent, a PURPOSE-T template would result in loss of data depth, due to template yes/no functionality limitations, resulting in inadequate data capture and inadequate patient guidance.

Streamlining and localising PURPOSE-T usage was an important part of Stage-Three objectives. Demonstrating improved clinical process, usability and improved allocation of resources with PURPOSE-T use was paramount for clinician acceptance of PURPOSE-T.

Problems highlighted with using a page led approach in Stage-Three included:

1. Format is not as intuitive as Waterlow format
2. At first, lengthier to complete due to separate page format
3. No read codes associated with questionnaire resulting in no ability to generate reports:
    - Reporting of number of patients, assessed or screened-out required

<u>Considerations:</u>

Difficulties 1 and 2, were considered likely to be alleviated through training and prolonged usage of PURPOSE-T.

Difficulty 3, was associated with formatting within SystmOne and an important consideration for wider implementation. Data extraction (of some data) within SystmOne requires 'read codes', these codes are what SystmOne uses to identify data and generate reports. PURPOSE-T did not have read codes associated with it, thus had no facility to generate reports from the data captured within it. Read codes are released twice a year and PURPOSE-T specific codes, would not be released until late 2016. An elegant solution was to 'harvest' unused codes associated with similar data within SystmOne. The first code, harvested was used it to inform patient screen-out and the second, to inform the patient was identified as at risk and full assessment was completed. This data is also used to inform PU incidence and prevalence rates within the Trust. This solution had an unanticipated additional benefit, every patient assessed by the service is now recorded, rather than, only those with a Waterlow score 10 above.

5.4 Clinician Educational Training

Discussions with successful PURPOSE-T adoptive Trusts suggested, a significant amount of investment in time for training and education was required to ensure successful PURPOSE-T implementation. An important component of PURPOSE-T implementation was the development of a training package that not only supported clinical educational needs, but, as identified in Stage-One findings, enhanced clinician's autonomy and empowered clinical decision making.

Overseen by an expert Tissue Viability Healthcare Professional, from the Expert Clinical panel (see section 3.7), the entire education around PU prevention and management was redefined and clear instruction on use of PURPOSE-T and its concordant care pathways developed. A clinician educational toolkit reflecting PURPOSE-T on SystmOne was developed based on the PURPOSE-T paper version training developed by the authors (see Appendix R). To support the move towards paperless working, the toolkit was subsequently incorporated into SystmOne and accessed through the document library.

Training of the pilot team was undertaken by a member of the Expert Clinical panel and was used as a learning opportunity for refining training materials. In reflection of Waterlow training practices, consideration has been given to the development of an e-learning PURPOSE-T package, completed as part of a mandatory training program and the development of online learning resources further discussed section 7.3.

5.5 PURPOSE-T on SystmOne Stage-Three Findings

In Stage-3 clinicians, felt, although they would prefer the usability of a template, a questionnaire format provided more focused data recording and facilitated closer examination of individual patient health changes or grouped trend data. Further, the capturing of more meaningful clinical data and an improved documentation of process was anticipated to better support RCA. Clinicians also felt provision for recording notes was important. They highlighted, patients sometimes deny skin inspection and skin site information is sometimes provided by patient's carers, or by the patients themselves. A tick-box was subsequently, integrated within the screening stage to record consent/denial of skin inspection with a note box to record reason for denial and/or if skin site detail was provided by anyone other than the clinician.

Usability concerns were raised, surrounding potential for assessment duplication when using the SSKIN bundle and PURPOSE-T. The SSKIN bundle is used to aid PU assessment by prompt consideration of the health factors associated with maintaining skin integrity when care planning (Skin, Surface, Keep moving, Incontinence, Nutrition and hydration). PURPOSE-T supports the use of the SSKIN bundle. Training resources were subsequently refined to ensure clarity of SSKIN and PURPOSE-T use in the patient assessment process. The Waterlow template will be removed from the Trust's SystmOne once all the Trust's clinicians are trained and exclusively using PURPOSE-T for PU risk assessment. PURPOSE-T exclusivity will be established through Trust's Data Informatics Team.

5.6 SystmOne Functionality Limitation

The use of colour to make distinctions between primary risk factors and those with weaker evidence to support clinical decision making and facilitate appropriate pathway allocation, is as an important and unique feature of PURPOSE-T. A limitation of SystmOne was discovered with the usability of the 'traffic light' colour coding of PURPOSE-T.

As the patient is assessed a colour coded system informs the patient care pathway:

- Blue/Green: 'no problem' with risk factor assessment item
- Yellow: risk factor present which *may* impact upon PU risk
- Orange: risk factor present which puts the patient at risk and requires primary prevention

- Pink/Red patient has a pressure ulcer or scar from previous PU and requires secondary prevention/treatment

On paper it easy to identify which coloured boxes are ticked, as it is a one-page document and in SystmOne, each assessment section is on a separate page (see Appendix Q). Further, the colour associated with each question to support the decision making process is of limited use. SystmOne does not support the functionality of an automatically generated colour associated outcome at the end of the assessment. Therefore, the clinician must remember which coloured boxes they have ticked throughout the assessment to utilise the colour coding. This could be difficult task when with a patient, due to influences such as the patient is talking during assessment. A solution would be for SystmOne to generate a colour frequency outcome report at the end of the assessment. SystmOne does not currently support a function such as this. TPP the inventors and owners of SystmOne, can provide this functionality if enough people throughout the country request this functionality and even then, it is not guaranteed the functionality will become supported. This request is actioned through a voting platform within SystmOne. A voting platform has been developed and every clinician using SystmOne within the Trust will be asked to vote. PURPOSE-T on SystmOne can be used without an automated functionality. The ease of use associated with the colour coding of PURPOSE-T is however, somewhat lost without support of SystmOne functionality. As such every NHS Trust joining the PURPOSE-T movement, will be asked to vote for the additional functionality.

5.7 Guidance Amendments

The Trusts Pressure Ulcer Prevention and Management Guidelines, for The New Holistic and Mandatory SystmOne Templates were revised to provide written step-by-step instructions of PURPOSE-T usage and procedures ensuring consistency, accuracy and clinical quality with PURPOSE-T usage.

5.8 Unforeseen Influence

The Trust's vision to become paperless (Trust, 2014) resulted in the Trusts introduction of mobile handheld electronic computer tablet devices, for accessing and recording patient data, whilst in the patient's home, referred to as 'mobile working'. The pilot was due to commence prior to the Trust-wide introduction of mobile working. It was considered beneficial to introduce the Trust's clinicians to PURPOSE-T as a tool that was being piloted within the introduction of mobile working campaign.

6

STAGE-THREE - FOCUS GROUP & FINDINGS

6.1 Focus Group Methodology

Focus groups (FG) date back to the 1920s where they were used in market research (Powell et al, 1996) and opinion polling (Barker, et al, 2002). They have evolved and gained popularity across the disciplines, to become be widely used in health research (Bender & Ewbank, 1994). FG are defined as "group discussions organised to explore a specific set of issues" (Kitzinger, 1994, p.103) and draw upon experiences, perspectives, reactions and group interaction to explore the lived experience, in a way eluding other methodologies (Gibbs, 1997). Comparatively to individual interview, focus groups are more 'naturalistic' because they promote a conversational dialogue that elicits a multiplicity of views guided by the moderator. They further, explicitly aim to capitalise on group interaction as the attitudinal and behavioural patterns characterising the group's lives are explored (Krueger, 1998; Powell et al, 1996). As such, "the focus group contextualises human phenomena within the personal and social milieu within which it arises" (Powell et al, 1996).

Group composition is important and its members require careful selection. Firstly, to ensure its members are interested engaging in the group, thereby, increasing the likelihood of specific detailed responses (Bender & Ewbank, 1994). Secondly, to minimise group dynamic conformity pressures. There are numerous benefits associated with FG. They can efficiently and quickly produce large amounts of data from a number of people at one time (Krueger & Casey, 2015). Importantly, they are particularly useful when existing knowledge is inadequate and in-depth exploration of pertinent issues surrounding service improvement is required (Powell et al, 1996). They can be applied flexibly, as they can stand alone as a research methodology, or easily combine with the epistemological assumptions of both quantitative and qualitative methodologies (Wilson 2008). A further strength of FGs is they are recognisable as both a methodology and a method of data collection (Jamieson & Mosel-Williams, 2003). The distinction lies in whether the FG is identified as 'integral' to the methodology and establishes the interplay between sampling, data collection and interpretation of meaning through data

analysis (Jamieson & Mosel Williams, 2003) or whether used as an optimum strategy to meet other methodological purposes (Gibbs, 1997). As such the use of FG resonates with the evaluation's philosophical assumptions aims.

6.2 Considerations

Ethically it was important to recognise and be mindful that, presenting clinicians with a new PURAT and asking them to combine it with current practices would affect their workload and could lead to clinician care delivery concerns. To alleviate workload and care concerns, PURPOSE-T could be completed in tandem with Waterlow, or retrospectively, because the evaluation focus was the clinician's experiences and perspectives, not patient outcomes.

The FG schedule was shared with focus group members (FGM) one week before the FG took place, to give members time to consider their question responses. Discussion material was not sensitive and therefore, not anticipated to lead to over disclosure of personal information, which could lead to privacy concerns (Krueger & Casey, 2015). Time to participate in the FG required time away from the clinical area. To mitigate, the FG took place on NHS premises, at a mutually agreeable time and was kept to a maximum of 60-minutes ensuring minimisation of time away from the clinical area.

6.3 The Clinicians

Clinicians were introduced to the purpose and objective of the evaluation during a general meeting. The clinician's daily practices involved patient assessment using Waterlow, therefore, were firstly, well placed to assess the effectiveness and usability of PURPOSE-T in clinical practice and secondly, representative of the Trust's clinicians as a whole. Clinicians were invited to volunteer, to risk assess using PURPOSE-T in tandem with Waterlow, for the four-week implementation period. Before being asked to volunteer, clinicians were advised the expression of interest extended to membership of a focus group and they remained free to refuse to participate, or withdraw at any time.

All clinicians verbally consenting to participate required at least 5-years clinical experience. The experience level requirement was grounded in the findings of the Stage-One. It was anticipated more experienced clinicians would be less confused and more confident using clinical judgment should the assessment outcome of PURPOSE-T and Waterlow differ. The use of a homogeneous group of experienced clinicians can be considered as a key feature of the

implementation. Clinician's in-depth knowledge, combined with a high-interest level, (demonstrated by voluntary participation in the FG) was anticipated to provide stronger support for findings, as their accounts were likely to be highly detailed (Bender & Ewbank, 1994).

The evaluation strategy (3.7.1) outlined a team of 6 clinicians was optimal to achieve the objectives of Stage-Two. A team of six was deemed small enough for everyone to contribute in Stage-Three, yet large enough to capture diverse opinions (Krueger, 1998). Bringing together a group of clinicians in an organisational context proved to be difficult. Resulting in five clinicians consenting to pilot participation. Although not meeting the anticipated optimal strategy, a team of five was considered a large enough to meet evaluation objectives.

The FGM were a pre-existing group of clinicians, with similar roles, well known to each other, with pre-existing dynamic. The influence of role hierarchy within a group known to each other, is well reported within the literature as impeding member's involvement and digression (Coleman, 2016; Krueger & Casey, 2015; Stewart et al, 2007). In contrast, the use of a pre-existing group was considered advantageous. The group had a tangible interest in evaluation outcomes and their dynamic was anticipated to produce more 'naturalistic' discussion and improve divulgence of experience in context to their daily clinical practice (Kitzinger, 1994). Any influence of hierarchy was anticipated to be minimal during the discussion and conversely, more likely to result in more senior clinicians being more talkative, rather than overshadowing views of junior clinicians (Barker et al, 2002).

6.3.1 Clinician Profile

All five nurses consenting to participation in the four-week evaluation period assessed at least five patients using PURPOSE-T before FG participation. A referencing strategy was used to identify FG contributions. Each FGM was assigned a unique identification code beginning with the letters FG followed by, time in job role as identified in section 4.3 and a unique identification number. FGM were all specialist nurses, well experienced in their job roles and well positioned to provide feedback on PURPOSE-T usage. A clinician profile outlining time in Job Role is presented in Table 8. It is anticipated developing reader understanding of the clinicians that took part in the FG will credibilize the representativeness of clinician's experiences and perspectives and the generalizability of outcomes.

Table 7. Focus Group Clinician Profile

Focus Group Members (FGM)	Time in Job Role				
	0-5	6-10	11-15	15+	Total FGM
	1	3	1	0	5

6.4 Procedure

The FG took place in March 2016, on NHS premises. A script guided the introduction to the focus group, to ensure all ethical considerations were verbalised before the focused discussion began (Appendix S). Briefly, the group were advised on; session length, the discussion was confidential thus, their contributions would be anonymised, their freedom to withdraw or refuse to participate at any time and if they chose to exercise that right their contribution would be omitted, data collection purposes and assurance of data storage and handling standards (Barker et al, 2002). Clear ground rules for participation were also established before the focused discussion began (Krueger 1998). Confidentiality is a particular issue within FG as confidentiality for topics discussed cannot be enforced or ensured beyond the group. As the group were known to each other, it was anticipated discussion surrounding PURPOSE-T would continue beyond the group setting.

Verbal consent was sought for participation, digital recording, transcription and use of illustrative verbatim quotation in written result analysis. Any questions surrounding participation were discussed before the recording began. An opening statement for the purpose of the recording reiterated confidentiality, consent, data storage and publication availability. Finally, contact details and estimated report availability with advice direct provision was available if desired were advised. Importantly, as to not deceive, the moderator's role as a student was emphasised, and that, findings would inform both the Trust's clinicians clinical practice and the author's academic assessments.

6.5 Moderation

On face value, focus group methodology can be viewed as deceptively simple (Wilson, 2008). The time and effort required for sound data collection, thorough data processing, and careful, systematic data transcription and analysis is formidable (Knodel, 1995). Further, FG can be expensive, and difficult to organise, and the richness of data produced is somewhat dependent on the skill of the moderator (Wilson 2008). The moderator undertakes several key roles that include; preparing materials, liaising, setting-up the FG, assembling equipment, and utilising

critical interpersonal skills such as; empathy, positive regard and maintaining a friendly relaxed environment as to elicit rich in-depth data (Krueger, 1998). Given the skills required, well-known FG researchers (Kitzinger, 1994, Krueger, 1998, Wilson, 2008) suggest moderators should (ideally) be experienced in working with groups. The author and moderator had significant experience working with groups and the FG undertaken for the evaluation was the author's first moderating experience. Kitzinger (1994), Krueger, (1998), Krueger and Casey (2015) provide excellent resources for the novice moderator and provide guidance including how to set-up a FG, best practice, interpersonal skill development and group management. A number of strategies suggested by Kitzinger (1994), Krueger, (1998), Krueger and Casey (2015) were adopted to facilitate and encourage discussion. Due to the group dynamic and established level of trust, a relaxed approach with minimal moderator intervention was utilized (Kitzinger, 1994). FGM set priorities, whilst the moderator guided, probed and encouraged the expansion of opinions and accounts (Krueger, 1998).

The FG schedule (Appendix S) was grounded in Stage-One findings and used pre-determined, focused questions to guide and prompt discussion. Initial questioning was devised to put group members at ease and encourage sharing of experience. It was anticipated 'techniques' such as a five-second pause and probes, "yes I see" and "could you elaborate" (Krueger & Casey 2015) would encourage expansion of accounts and elicit rich data. In closure the group was asked "of all of the comments made today which is most important to you?" This was anticipated as developing further depth and disclosure of PURPOSE-T use experience. The final question "…is there anything we have missed or you we should have talked about but didn't?" was anticipated to facilitate interpretation of conflicting accounts and ensure no potential critical elements were overlooked (Krueger and Casey 2015).

6.6 Focus Group Data Management

The author digitally recorded and transcribed the FG directly within NVivo verbatim, (i.e. every utterance was transcribed).

6.7 Focus Group Theme Generation Process

Theme generation processes replicated the process of Stage-One (see section 4.12). Codes are strongly linked to the language, concepts, perspectives and interaction between FGM. Data analysis adhered the principles of TA as described in section 4.10. Analysis followed an identical theme generation process, except, finalised themes were identified in the second round

of coding. The transcript was first considered in relation to the themes developed in Stage-One. Round one coding identified 37 codes of which, 7 overlapped with Stage-One survey codes (see Appendix T). Round 2 identified three key themes with 23 theme identifiers (see Appendix U).

6.8 Themes Identified

The FG yielded rich, responses with commonality and divergence. Feedback overall, was strongly favourable. Three key themes emerged as central to PURPOSE-T implementation; Comprehensiveness of the Assessment, Improved Clinical Confidence and Acceptability. In reflection of Stage-One analysis, themes are presented in order of 'keyness' (Braun & Clarke, 2006), with verbatim extracts used to illustrate theme meaning (see Appendix T). To a large extent themes overlap and merge. When considered together they comprehensively reflect clinician's perceptions of PURPOSE-T usage.

6.8.1 Comprehensiveness of the Assessment

Overall, perceptions of PURPOSE-T were strongly favourable. Discussed with a great deal of enthusiasm, was the comprehensiveness of a PURPOSE-T risk assessment comparatively to a Waterlow risk assessment. The PUPPs combined with the equipment provision guide were also considered strongly supportive to the assessment process. PURPOSE-T was considered overall to widen the clinical picture. The group unanimously agreed the pressure damage risk factors identified within the PURPOSE-T assessment, were more comprehensive than Waterlow risk predictors. This was considered as encouraging a more thoughtful, approach to the assessment, prevention and management of PU and supporting more congruency between clinical judgement and care pathway allocation than current standard clinical practice markedly enhancing clinical decision-making.

> "the other thing about PURPOSE-T is it make you think…even when you can't see anything on their skin when they say it hurts and you can't see anything you're putting it down" (FG061)

For two well-experienced FGM, enthusiasm for PURPOSE-T emanated from what they perceived as a beneficial experience. They both considered PURPOSE-T, had beneficially widened their assessment considerations and made them reconsider their clinical decision making as they explain:

"Thinking about it, it did actually make me prescribe emollients when perhaps before I wouldn't have noticed so much dry skin before because I wasn't looking at all of their areas more specifically as PURPOSE-T prompted me too. I think probably I was looking at it with different eyes and that's really positive" (FG6061)

"… it did make me think is the equipment good enough for what they need and on a couple of occasions I found that it didn't match up but that was because of patient choice rather than anything else" (FG0562)

The assessment and detailing of a wider range of skin sites was considered as capturing more meaningful clinical data. The inclusion of elbows was particularly highlighted as beneficial. A Waterlow assessment does not include elbows as risk sites, therefore, clinicians are likely to overlook them when assessing risk, as this FGM highlights:

"Things like elbows, how often do we actually to look at elbows yet quite a lot of our patients get sore elbows" (FG6063)

6.8.2 Improved Clinical Confidence

The identification of risk factors within PURPOSE-T were considered to overcome the difficulties of the ambiguous 'grey areas' (Waterlow, 2005) of risk factor identification within Waterlow and potential for different clinicians to interpret risk factors differently. This implies FGM consider PURPOSE-T assessment to require a level of objectivity that Waterlow assessment does not develop. This seemingly is derived from perceptions of improved risk factor descriptors and assessment process.

I think there will be a much higher degree of consistency we all might get the odd thing where somebody has not understood what heart failure is generally there will be higher degree of consistency" (FG1165)

The perception of improved interpretation of risk factors, resulted in clinicians feeling confident to act in accordance with their own professional knowledge base as this clinician explains:

"With PURPOSE-T your decisions aren't being guided by numbers. You're being guided by the patient history, what you're seeing and whether they are moving which is a much better way of assessing" (FG6061)

A perception of Waterlow propensity for risk overestimation resulted in its outcomes being disregarded. Implying the use of Waterlow could be considered a tick box exercise rather than an efficacious tool. The assessment pathway and associated outcome with guidance for the care pathway allocation was considered as improving clinical practice. The PURPOSE-T assessment outcome was considered an improvement for clinical practice as it provided a clear outcome and guidance for a patients care pathway as these clinicians explain:

"Yeah I like the fact it gives you an outcome at the end. Because Waterlow doesn't, you're like... ahh… right, well they are still quite independent, but they scored high so I'm just going to ignore it because I think they are alright … At least with PURPOSE-T it will say primary prevention" (FG0562)

"…to actually have an outcome, with Waterlow you don't have an outcome do you really" (FG6061)

The incorporation of a screening stage was unanimously considered beneficial and more meaningful approach to the assessment of PU risk. All FGM described the importance of the screening stage for improving patient care and potential for Trust cost savings through improved allocation of resources. Particularly surrounding fully ambulant patients with co-morbidites scored high risk of developing PU, when assessed with Waterlow and triggering need for pressure relieving equipment provision and additional clinical facing time, could be screened-out using PURPOSE-T as not at risk of PU development risk as this clinician explains:

"Mine actually showed there were a few that had equipment but didn't actually need it because they were able to make those movements and everything, but because previously on Waterlow they had heart failure and scored high, they therefore got a cushion, which sits down the back of the chair gathering dust and suddenly it screened them out right away because they were well, skin intact and mobile it might reduce costs for some of our patients" (FG1165)

The screening stage was also considered to empower clinical judgement. Whereas Waterlow assessment was perceived to require bravery use clinical judgement and act against the

outcome score generated. PURPOSE-T was perceived to support more concordance between clinical judgement and care pathway allocation. This seemingly empowered clinical decision making confidence as these clinicians explain:

"…you need to be brave enough to use your clinical judgement with Waterlow, whereas with PURPOSE-T it's going to screen out and the decision is there straight away, rather than relying on a number and then whoever is interpreting that number" (FG6061)

"…identification of the risk factors has been narrowed down to those key 8 areas, which has been the whole point hasn't it, of all that research and money that has gone into developing PURPOSE-T. So that is exactly what it should be doing and not just making clinicians think they need to do something just because of a number… if they have got dry skin and doing something actually about that risk factor, as opposed to just thinking you have got a score of 12, I need to give you a cushion. What your action is when you have identified the risk, is a lot more specific to that problem…" (FG6064)

Waterlow was criticised for lack of subtlety to detect change in patient clinical status. Clinicians felt an important feature of PURPOSE-T, was its efficacy detecting health improvement or deterioration. This in turn improved the guidance of intervention decisions and improved patient outcomes. These impressions suggest this sensitivity to detect subtle shift in health status, could consequently offer potential cost saving opportunities for the trust.

"…Waterlow is not subtle enough, the score can be 20 and the patient gets much much worse it wouldn't necessarily go to 24 or something, when you do the score it could still come out at 20, so it's a blunt tool for actually seeing the trends, it doesn't really show whether a patient is getting better or getting worse, it tends to stay the same…" (FG1165)

"Yeah, it [PURPOSE-T] recognises they are mobile and less mobile" (FG6063)

FGM unanimously agreed the questionnaire PURPOSE-T format would improve the completion of RCAs through better documentation of the development of PU, because the questionnaire format and thoroughness of assessment resulted in more meaningful detailing of clinical data and improved documentation of process. This was perceived to improve insight into establishing the ameliorative steps taken by clinicians to avoid the development of pressure damage. Suggesting the adoption of PURPOSE-T as standard practice could help amend the fearful, defensive nursing strategy perceived to have developed.

"…because we used to get pressure if the score was sort of 10 or 12 …, if that person who was mobile then gets an infection, becomes immobile and then gets a pressure sore, that would then be thrown back in your face through the RCA thing. Well you did the score, you said and you know it's changed and you get asked why didn't you put something in preventatively because they were at risk. You couldn't really win, you ended up being defensively nursing…" (FG1165)

"…it is too easy to identify someone, the Waterlow over estimates the risk, so you very quickly get patients who according to the score is at risk, so if you have one of those & you are completing an RCA then you see they have been identified at risk but perhaps there has been no documentation of why or you don't know anything about that or they might have suggested that the patients doesn't need intervention that is more questioned than if there wasn't a number there really…" (FG6064)

"Whereas Waterlow they are all at risk with PURPOSE-T it's about getting that movement back again" (FG6061)

6.8.3 Acceptability

Overall, PURPOSE-T was met with a great deal of expression of strong support for continued use due to the potential for positive impact on patient care. There were however, concerns raised influencing PURPOSE-T acceptability. Concerns raised by one FGM surrounding the questionnaire as 'unintuitive' comparatively to the Waterlow template format, was challenged by other members of the FG and led to an exchange advocating the value of a questionnaire format:

"…I didn't think the questionnaire did work but as a template would probably be better and complete a tick box, you know more intuitively, rather than having to go through every area of the body" (FG1165)

"I think the bit about every separate area was useful because even on the SSKIN template we don't have a list of all of the separate areas, it's up to you to list which areas you've checked isn't it? which isn't great, I think it should be listed, that's why PURPOSE-T is good coz it does list the body by area" (FG0562)

"Yeah" [in agreement] (FG6063)

"…because, you could put anything couldn't you" (FG0562)

"Yeah prompts are good, that's very true" (FG1165)

This exchange suggests the change from a one-page template with dropdown boxes to a separate-page questionnaire is likely to result in clinicians raising issue with the assessment format and process change, until the use of PURPOSE-T becomes embedded routinized clinical practice. Concerns were also raised surrounding the potential for information duplication when completing SSKIN and when PURPOSE-T should be used.

Further discussion surrounding PURPOSE-T acceptability concerns and limitations encountered are more widely discussed section 5.6.

6.9 Supporting The Change Process

To alleviate concerns with PURPOSE-T usage, two educational packages were developed one with screen-shots from SystmOne pictorially guiding clinicians step-by-step through the use of PURPOSE-T and one with written step-by step PURPOSE-T usage instruction. Both packages include wider discussion surrounding the benefits of the PURPOSE-T questionnaire format and refined instruction of when to use PURPOSE-T (Appendix R).

6.10 Post Focus Group Considerations

The FGM had a strong shared interest in service quality improvement and provided strong support for wider implementation of PURPOSE-T. This influenced the moderator, the author discovered it is easy to digress and become participant rather than moderator and jeopardise discussion. Overall, FGM responses were detailed and specific, there were two instances the author contributed to the discussion. In both instances, the contribution elicited wider detailing of view rather than limiting the view expressed (Krueger, 1998) (see Appendix V). The anticipation of more vocal or more senior clinician's views overshadowing views of junior clinicians (Barker et al 2002) was not supported, any influence of clinician seniority was minimal and did not affect outcomes. Upon reflection, there were opportunities the author could have probed further, but did not. These missed opportunities are considered by the author as moderator naivety, which can be overcome with experience.

Individual views of FGM surrounding Waterlow were not ascertained before commencing the pilot. Questions reflecting the EUWT-Q were purposively omitted from the FG schedule because there is a potential for further research using a refined version of the EUWT-Q (outlined Chapter 7).

6.11 Discussion

PURPOSE-T was effectively incorporated into clinical routine. Clinician satisfaction and support for PURPOSE-T was high. Clinicians completed PURPOSE-T assessment on every patient within their caseload during the pilot period, whether immediately whilst with the patient, or retrospectively. It seems, the implementation of PURPOSE-T and its concordant PUPPs have been instrumental for developing clinical decision making confidence. The strongly favourable response to PURPOSE-T suggests, the defensive nursing strategy identified in Stage-One can be overcome by the replacement of Waterlow with PURPOSE-T. It is however likely, concerns with PURPOSE-T SystmOne acceptability will be encountered with the change of assessment format and process until PURPOSE-T becomes embedded routinized clinical practice.

Both survey and FG findings demonstrate clinician's judgements and decisions surrounding patients care and management are made (or supported) based on information produced by assessment tools. Owing to the frequency in which clinicians perform PU risk assessment, clinicians need to perceive the tool they use as suitable, sensitive and enhancing decision making for it to be efficacious. These narratives demonstrate PURPOSE-T supports these requirements and is considered an efficacious risk assessment tool that reflects patient care needs. Overall, PURPOSE-T was considered as encouraging a more thoughtful, approach to assessment, prevention and management of PU and supporting more congruency between clinical judgement and care pathway allocation and a suitable, sustainable and potentially cost saving replacement for Waterlow.

7

DISCUSSION

The evaluation makes an import contribution to qualitative exploration of clinician's perspectives and practices surrounding PU assessment, prevention and management strategies. Themes identified in both Stage-One and Stage-Three, reflect those identified in Trust conducted root cause analysis (RCA), supporting the rationale for the implementation of PURPOSE-T. To the authors knowledge, qualitative exploration of clinician's perspectives and practices surrounding PURPOSE-T usage, particularly consideration of PURPOSE-T usage within SystmOne, is the first of its kind. The panel of experts advising and supporting the evaluation, provide robustness to findings. Members of the panel were employed within the Trust, therefore, knowledge and experience imparted was reflective of current clinical practices. It was paramount to successful implementation, a small, appropriate team of nurses, were able to implement PURPOSE-T within their caseloads to ensure robustness of outcomes.

Critical realist theoretical positioning provided an accessible and congruent approach for understanding the complexities of the healthcare environment (Clarke et al, 2005). The methodology, explicitly valued the voices of the Trusts clinicians and is grounded in experiences of those it seeks to inform. As such, findings are strongly relevant to clinical practice and ultimately generate new ways of thinking to provide strong support for recommendations and conclusions.

The evaluation achieves the objectives outlined section 3.7.1. Examining perceptions toward PU clinical practices before implementation, was considered a logical and robust phase of evaluation. Stage-One survey findings suggest; clinicians are dichotomised toward considerations of using Waterlow in their daily practice. Some considered Waterlow a useful, but flawed tool, however, a larger group of narratives strongly voiced Waterlow inadequacy supporting clinical decision making. Confusion surrounding interpretation of 'grey areas' (Waterlow, 2005) or ambiguously interpretable risk factor identifiers were widely perceived as problematic, these narratives revealed deep frustration, lack of confidence and professional disempowerment, which were perceived as stemming from the use of Waterlow. Clinicians also

perceived the use of Waterlow to have evolved into one of constrained dictation, rather than part of an assessment process. This was strongly voiced surrounding perceptions of Waterlow propensity for risk over estimation that were triggering inappropriate allocation of resources and clinical facing time. This seemingly had influenced a working culture where clinical judgement is (for some) overruled by Waterlow score outcome, resulting in a move toward a 'nursing by numbers' care approach and, as such, many narratives directly requested Waterlow replacement.

In Stage-Two, PURPOSE-T was successfully integrated into SystmOne and effectively incorporated into clinical routine during the four-week pilot period.

In Stage-Three, clinicians completed a PURPOSE-T assessment on every patient within their caseload during the pilot period, whether immediately whilst with the patient, or retrospectively. All clinicians described the importance of the PURPOSE-T screening stage for improving patient care and potential for Trust cost savings through improved pressure damage risk identification and improved provision of resources. This would seemingly alleviate concerns raised in Stage-One surrounding Waterlow propensity to over predict risk and influence inappropriate resource allocation. There was strong agreement pressure damage risk factors identified within PURPOSE-T assessment were more comprehensive and less ambiguous than Waterlow identified risk predictors. This was considered as encouraging a more thoughtful, approach to assessment, prevention and management of PU and supportive of more congruency between clinical judgement and care pathway allocation than current standard clinical practice and PURPOSE-T was a suitable, sustainable and potentially cost saving replacement for Waterlow.

Following completion of Stage-Three, minor refinements were made to PURPOSE-T on SystmOne and the educational package was further developed and refined (Appendix R). PURPOSE-T was incorporated into the Trust-wide rollout of mobile working and the pilot team continued to utilise PURPOSE-T beyond the scope of the pilot.

RECOMMENDATIONS

The findings make an important contribution, developing insight and direction through human factor focused exploration into elements associated with the use of pressure damage assessment tools. Although some of the identified factors are well described in the literature, others need further careful analysis.

It is fundamental to successfully engaging clinicians and sustaining changes in practice over time, that the Trust provide clinician's the support required for education and implementation be monitored. An educational programme would be best supported through development of a new suite of resources that include e-learning materials and online video tutorials, reflecting the resources developed for PURPOSE-T Educational Training (Appendix R). A PURPOSE-T e-leaning module completed as part of a mandatory training program should be developed to replace the mandatory Waterlow e-leaning module.

Motivated, trained and empowered individuals are required to drive PURPOSE-T implementation forward. Healthcare innovation leaders (Greenhalgh et al, 2004b) highlight the pivotal role opinion leaders and champions, i.e. those committed to innovational success play in effecting, expediting and maintaining innovation momentum. As such, key individuals need to be identified and trained to act as champions, leaders and facilitators of PURPOSE-T implementation. Both the educational approach and training of key individuals coincided with the change processes associated with the rollout of mobile working.

The findings and its conclusions are significant, they are however partial, a wider body of evidence is required to ensure implementation remains evidence-based. The extent of clinical practice transformation and potential for learning opportunities are sizable, it is essential to build a more comprehensive view and maximise learning through research opportunities arising from the implementation of PURPOSE-T and support future innovations of this kind. Opportunities include:

<u>Stage-Five</u>

- Administer a second qualitative survey grounded in Stage-One. Performed after PURPOSE-T becomes embedded routinized process.
    - Establishes clinician’s perspectives of the implementation at a wider level
    - Stage-One findings serve as a baseline measure for outcomes

<u>Stage-Six</u>

- Patient and Public involvement (PPI) Patient survey and focus groups
    - Establishes a wider understanding of PURPOSE-T patient impact

<u>Stage-Seven</u>

- Impact review, one-year post PURPOSE-T rollout
    - Ensures recommendations and improvement remain evidence based

- Explore PURPOSE-T screened-out rate and associated cost savings
- Economic evaluation (cost-effectiveness analysis) to establish where health outcomes are improved and costs reduced
- Concurrent examination of the service improvement's impact on PU prevention and management strategies to establish, incidence and prevalence rates and patient outcome improvements.

IN CLOSING

A new and innovative approach to pressure damage assessment, prevention and care management strategies was successfully implemented. Diverse clinical perspectives were well represented in Stage-One by an excellent response rate (Babbie, 1990). In Stage-Two, PURPOSE-T was successfully integrated into SystmOne and effectively incorporated into clinical routine. The comprehensive human factor insight developed in Stage-Three, provides robust evidence to support the continued use of PURPOSE-T as a suitable replacement for Waterlow.

The PURPOSE-T movement is in its infancy, with a limited published evidence-base. The Trust became an early implementer of PURPOSE-T and one of the first NHS Trusts to use PURPOSE-T on SystmOne. Therefore, further research outputs, would increase diffusion of best practice and the extent of clinical practice transformation and potential for learning opportunities are sizable. The findings and conclusions are significant, they are however partial, a wider body of evidence is required to ensure implementation remains evidence-based. The work represents an important contribution toward achieving the Trusts quality agenda to eliminate all avoidable PU for patients in its care and provides robust evidence to support the continued use of PURPOSE-T as a suitable, sustainable and potentially cost saving replacement for Waterlow as standard practice across the Trust.

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APPENDIX A

EPUAP/NPUAP, (2009) International Pressure Ulcer Classification System

International NPUAP-EPUAP Pressure Ulcer Classification System 2009
Category/Stage I: Non-blanchable erythema
Intact skin with non-blanchable redness of a localized area usually over a bony prominence. Darkly pigmented skin may not have visible blanching; its colour may differ from the surrounding area. The area may be painful, firm, soft, warmer or cooler as compared to adjacent tissue. Category I may be difficult to detect in individuals with dark skin tones. May indicate "at risk" persons.
Category/Stage II: Partial thickness
Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open/ruptured serum-filled or sero-sanginous filled blister. Presents as a shiny or dry shallow ulcer without slough or bruising*. This category should not be used to describe skin tears, tape burns, incontinence associated dermatitis, maceration or excoriation. *Bruising indicates deep tissue injury.
Category/Stage III: Full thickness skin loss
Full thickness tissue loss. Subcutaneous fat may be visible but bone, tendon or muscle are not exposed. Slough may be present but does not obscure the depth of tissue loss. May include undermining and tunnelling. The depth of a Category/Stage III pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have (adipose) subcutaneous tissue and Category/Stage III ulcers can be shallow. In contrast, areas of significant adiposity can develop extremely deep Category/Stage III pressure ulcers. Bone/tendon is not visible or directly palpable.
Category/Stage IV: Full thickness tissue loss
Full thickness tissue loss with exposed bone, tendon or muscle. Slough or eschar may be present. Often includes undermining and tunnelling. The depth of a Category/Stage IV pressure ulcer varies by anatomical location. The bridge of the nose, ear, occiput and malleolus do not have (adipose) subcutaneous tissue and these ulcers can be shallow. Category/Stage IV ulcers can extend into muscle and/or supporting structures (e.g., fascia, tendon or joint capsule) making osteomyelitis or otitis likely to occur. Exposed bone/muscle is visible or directly palpable.
Unstageable/ Unclassified: Full thickness skin or tissue loss – depth unknown
Full thickness tissue loss in which actual depth of the ulcer is completely obscured by slough (yellow, tan, grey, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar are removed to expose the base of the wound, the true depth cannot be determined; but it will be either a Category/Stage III or IV. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels serves as "the body's natural (biological) cover" and should not be removed.
Suspected Deep Tissue Injury – depth unknown
Purple or maroon localized area of discoloured intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or *shear*. The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue. Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may further evolve and become covered by thin eschar. Evolution may be rapid exposing additional layers of tissue even with optimal treatment.

APPENDIX B

AVOIDABLE/UNAVOIDABLE EVIDENCE INDICATORS

Avoidable/Unavoidable evidence indicators:	**Outcome**
Pressure Ulcer present on admission [redacted] care?	Yes/NA
Patient care provided in accordance with [redacted] Standards of Practice?	Yes/No
Patient's clinical condition and Pressure Ulcer risk identified?	Yes/No
Plans/care implemented consistent with Patient's needs/goals?	Yes/No
Plans/care monitored, evaluated and revised as appropriate?	Yes/No
Patient had a critical illness/on the End of Life Pathway?	Yes/NA
A critical event occurred resulting in pressure damage?	Yes/NA
Patient refused to reposition/maintained a pressure detrimental position?	Yes/NA

ALL evidence indicators resulting in 'Yes' result in an Unavoidable Pressure Ulcer Outcome,
ANY evidence indicators resulting in 'No' result in an Avoidable Pressure Ulcer Outcome.

APPENDIX C

PUBLICATIONS SUPPORTING
THE DEVELOPMENT OF
PRESSURE ULCER RISK PRIMARY OR
SECONDARY EVALUATION TOOL
PURPOSE-T

Briggs, M., Collinson, M., Wilson, L., Rivers, C., McGinnis, E., Dealey, C., Brown, J., Coleman, S., Stubbs, N., Stevenson, R., Nelson, E.A. and Nixon, J. (2013) The prevalence of pain at pressure areas and pressure ulcers in hospitalised patients *BMC Nursing,* 12(1) 19.

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APPENDIX D

PROJECT SUMMARY PRESENTED

PROJECT SUMMARY - SEPTEMBER 2015

The over a number of years the Trust's pressure damage practice has focused on using the Waterlow scoring system to assess, categorize and manage pressure damage. During this time, using the Waterlow scoring system, our pressure damage year on year prevalence rates has worryingly shown an increase. This has led to the trust comparing unfavourably to other Trusts and a repeated need to develop action plans to deliver Quality Improvement.

Established practices and routines using the same tools have a potential for creating a culture for repeatedly carrying out the same practice with an expectation for different outcomes. Improving patient care is not an easy task, particularly when innovation necessitates alteration to clinical routines, multidisciplinary collaboration or changes in care pathways.

This ambitious Scaling Up Improvement project aims to eliminate all avoidable pressure damage, address Trust equipment overspend, reduce health costs and improve patient experience and outcomes. This vision will be delivered through a Quality Improvement Collaborative to implement and evaluate impact of an innovative Operational Framework for Pressure Ulcer Risk Assessment, Prevention and management. This new operational framework redefines assessment response and escalation of pressure damage and implements the PURPOSE-T risk assessment framework tool to assess, prevent and manage pressure damage.

We recognise that implementation of a new operational framework requires clinicians to change (often) entrenched behaviours and this can result in resistance. To assist with acceptance of the new operational framework clinician awareness sessions will provide opportunity for clinicians to ask questions and discuss concerns before they undertake subsequent tool and Operational Framework educational/training sessions.

To assess the effect of the new operational framework we will use an implementation evaluation to compare the impact of the implementation against baseline Trust collected pressure ulcer prevalence rates. An important element of the implementation evaluation is consideration for the human factors involved in effecting change. Therefore, the implementation evaluation will also examine nursing barriers, resistance to change and the impact of the new assessment tool and operational framework on the complexities of nursing culture. Clinician questionnaires will provide evidence for process & outcome improvement. Evaluation of the implementation will establish robust evidence for a Trust wide adoption of this new approach to Pressure Ulcer risk assessment prevention and management. The clinical team of the pilot site will be central to any subsequent Trust wide roll out.
The evidence-base for an Operational Framework that adopts PURPOSE-T is growing, it currently being used in the Pressure RElieving Support SUrfaces: a Randomised Evaluation 2 (Pressure 2) currently active in within the Trust. Further, PURPOSE-T has been adopted by Pennine acute Hospitals NHS Trust and Kent Community Health NHS Trust, Leeds Teaching Hospitals NHS Trust and Leeds Community NHS Trust.

APPENDIX E

EXPERT HEALTHCARE PROFESSIONAL PANEL

Name	Organisation & Job Title / Role	Evidence of specific skills in relation to the proposal
C[redacted]	Clinical Nurse Specialist, Tissue Viability, [redacted]	Extensive experience of undertaking complex evaluations in healthcare, and with rolling out interventions.
S[redacted]	Tissue Viability Associate Nurse [redacted] NHS Trust	Experience of successfully completing major evaluations of health service interventions
K[redacted]	Clinical Nurse Specialist, [redacted]	Considerable experience of leading and partnership working to bring about health improvements.
J[redacted]	Research and Innovation Manager, [redacted] NHS Trust	Research Manager focusing on primary and community health care. Experienced in managing research projects. Expertise in understanding of how new organisational forms interact with institutionalised professional practices, cultures and identities. Manages, and is responsible for the compliance of the [redacted] for all research regulations and guidelines.
K[redacted]	Research Governance Facilitator, [redacted] NHS Trust	Expertise in evaluating governance compliance. Experienced in supporting previous projects
S[redacted]	Senior Research and Innovation Administrator [redacted] NHS Trust	Considerable experience of facilitating quality improvement and research in the health service. Experienced in supporting previous projects

APPENDIX F

SURVEY QUESTION DEVELOPMENT PROCESS

Pool of Ideas

Focus on:

- Experience
- Effectiveness
- Usability
- Clinical effectiveness

Don't want to be exhaustive - if too much to write will result in last questions not being answered or having poorer answers due to boredom etc

Role is important because role could indicate if a barrier to change
Time using is important - could be a barrier to change
Ask wide evaluatory questions
Try to illicit real feelings about the tool
Make sure questions are not Waterlow focused
Equipment overprescribe

What are the broad issues the questions will tackle to build from
What Concerns
Difficulties
Frustrations
Problems

The questions can't be too explicit nor vague – get close to what thought without leading/loading/biasing but must yield a satisfactory response

Can we use both open and closed questioning?
How many questions should we have?
Is it easy to use?
What can be improved?
Does it help in assessment?
How has it prevented PU with their patient?
Has it actually helped prevent PU?
What is easy and difficult about the RAF?
How did you find the e-learning package?
Has training helped you?
What are the RAF's benefits?
Is it useful?
What do you think about current PU practices?
How do current practices affect you as a caregiver?
What difficulties do you face using current strategy?

How would you assess the strengths & weaknesses of current practice?
Any particular strong points
Any particular weaknesses
Any suggestions for improving current practices

How would you assess the strengths & weaknesses of new framework practice?
Any particular strong points
Any particular weaknesses
Suggestions for improving current practices
Barriers to improving current practices

Do you consider the new implementation has been effective? – this is a yes/no question
What part of the implementation has been most effective?
What part has been the least s effective?

What difficulties have you faced using the new framework?
Do
Any other comments
Thank you for your time & input

How to decide what the impact of the implementation has been from the line of questioning
Ask same questions rather than two sets of questions – provides stronger support for findings

Use an inductive interpretation using a phenomenological framework (Jarrett et al., 1999), this means no one will be guided & is open to code however they choose. Approach based on' IPA – seeks to truly reflect the essence of the nurse lived experience

Would like to know how long respondents have been clinicians because I want to look at shifting practice & wonder if length of time in a role is a barrier to change – I expect this to be true but at least it can be clearly demonstrated in my data.
Can look at nurses perceived barriers & facilitators
Will TVN respond only with socially acceptable answers – I hope not especially if anonymous – but is there a way to chase for completion if anonymous? Need to check

<u>Feedback</u>

Can ask about e-learning specifically because there is no e-learning available for PURPOSE-T yet
Focus on open-ended questions
Ensure questions language easy to understand – all levels of clinicians will have access to respond
One framework for qualitative good Phenomenology very psychologically focused –look at different options.

First Draft survey Questions

How long have you used the Waterlow pressure ulcer risk assessment tool?
Do you think the Waterlow is reliable at identifying risk?
What features of the Waterlow are the easiest and most difficult to complete?
Have you ever experienced differences with your clinical judgement & the Waterlow Score? Please give details
What do you think the positive and negative feature of the Waterlow are?
How does the Waterlow effect your clinical judgment when prescribing equipment?
Do you think the Waterlow effectively guides care planning?

What features of the Waterlow are the easy and difficult to use?
What features of the Waterlow do you most like and dislike?
Does the Waterlow help your assessments?
What benefits does the Waterlow bring to your care planning?
How do you think the Pressure Ulcer risk assessment and management processes could be improved?
Do you think the Waterlow has helped prevent PU with your patients?

Does the Waterlow complement your clinical judgement

Feedback

Discordance not common terminology
Lots of similar questions around effectiveness, helpfulness and usability
Questions need polishing

Second Draft Survey Questions

Title
Perspectives: The Waterlow Pressure Ulcer Risk Assessment Tool
Attitudes Toward the Waterlow Pressure Ulcer Risk Assessment Tool

How long have you used the Waterlow pressure ulcer risk assessment tool?
Do you think the Waterlow effectively guides care planning?
What features of the Waterlow are the easy and difficult to use?
What features of the Waterlow do you most like and dislike?
Does the Waterlow help your assessments?
What benefits does the Waterlow bring to your care planning?
What do you think the positive and negative feature of the Waterlow are?
How do you think the Pressure Ulcer risk assessment and management processes could be improved?
Have you ever experienced difference with your clinical judgement & the Waterlow Score? Please give details
Do you think the Waterlow has helped prevent PU with your patients?

Job role will have a dropdown to choose from
Community Nurse
Nurse Specialist
Therapist
Healthcare Support worker
Other

<u>Feedback</u>

Good that not clinician specific
Has face validity to capture what is look like it should be capturing
Questions are open enough to be used in both Stage-One and Stage-Three

Finalised Survey Questions

Experiences of Using the Waterlow Pressure Ulcer Risk Assessment Tool

The EUWT-Q

1. What is your Job Role?
   Community Nurse
   Nurse Specialist
   Therapist
   Healthcare Support worker
   Other

2. How long have you used the Waterlow Pressure Ulcer Risk Assessment Tool?
3. Do you think the Waterlow Pressure Ulcer Risk Assessment Tool is reliable for identifying risk?
4. What features of the Waterlow Pressure Ulcer Risk Assessment Tool are the easiest and most difficult to complete?
5. Have you ever experienced a difference between your clinical judgement & the Waterlow Pressure Ulcer Risk Assessment Tool Score? Please give details
6. What do you think are positive and negative features of the Waterlow Pressure Ulcer Risk Assessment Tool?
7. How does the Waterlow Pressure Ulcer Risk Assessment Tool effect your clinical judgment when prescribing equipment?
8. Do you think the Waterlow Pressure Ulcer Risk Assessment Tool effectively guides care planning?
9. Is there anything you would like to add about your experience of using the Waterlow Pressure Ulcer Risk Assessment Tool?

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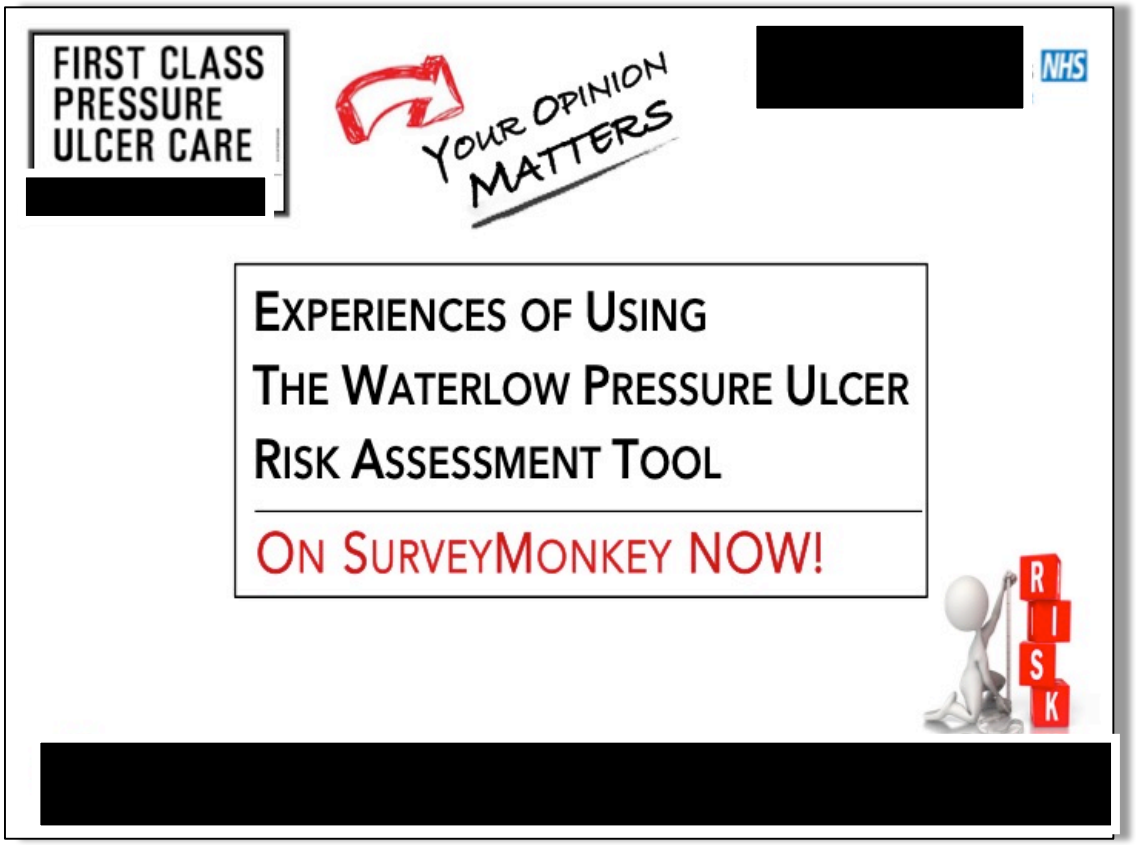
APPENDIX G

SCREENSAVER


FIRST CLASS
PRESSURE
ULCER CARE
[redacted]
YOUR OPINION
MATTERS
[redacted]
NHS
EXPERIENCES OF USING
THE WATERLOW PRESSURE ULCER
RISK ASSESSMENT TOOL
ON SURVEYMONKEY NOW!
R
I
S
K
[redacted]

APPENDIX H

QUESTION COMPLETION RATES

Experiences of Using the Waterlow Pressure Ulcer Risk Assessment Tool	Answered	Answer rate	Expanded	Expanded Rate	Skip	Skip Rate
Q1. What is your job role?	59	100%			0	0%
Q2. How long have you used the Waterlow pressure ulcer risk assessment tool ?	59	100%			0	0%
Q3. Do you think the Waterlow pressure ulcer risk assessment tool is reliable for identifying risk?	59	100%	35	59%	0	0%
Q4. What feature of the Waterlow pressure ulcer risk assessment tool are the easiest and most difficult to complete?	47	80%			12	20%
Q5. Have you ever experienced a difference between your clinical judgement and the Waterlow pressure ulcer risk assessment score? Please give details	52	88%	51	86%	7	12%
Q6. What do you think are the positive and negative features of the Waterlow pressure ulcer risk assessment tool?	47	80%			12	20%
Q7. How does the Waterlow pressure ulcer risk assessment tool effect your clinical judgement when prescribing equipment?	54	92%			5	8%
Q8. Do you think the Waterlow pressure ulcer risk assessment tool effectively guides care planning?	49	83%	25	42%	10	17%
Q9. Is there anything you would like to add about your experience of using the Waterlow pressure ulcer risk assessment tool?	30	51%			29	49%
Yes added	21	36%				
Of those responded No nothing to add (9/30)	9	15%				
Total Response Data points	486	773%	111	188%	75	127%

APPENDIX I

THEMATIC ANALYSIS SIX-PHASE PROCESS

(BRAUN & CLARKE, 2006)

Phase	Description of the process
1. **Familiarizing yourself with your data:**	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas. Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
2. **Generating initial codes:**	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. **Searching for themes:**	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. **Reviewing themes:**	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic 'map' of the analysis.
5. **Defining and naming themes:**	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. **Producing the report:**	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Reference

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APPENDIX J

SURVEY

THEMATIC ANALYSIS

ROUND 1

ROUND 2

SURVEY THEMATIC ANALYSIS ROUND 1

Organising Theme	Main Theme	No Coding Refs
To define	Caveat after agreement indicator	6
	Requires consistent training	1
	No problems identified	1
	Diabetic daily assessment	1
Clinical Judgment	Has some good points	1
	Need for Clinical Judgement	11
	Care plan not based on clinical judgement	4
	Not New staff friendly	1
	Creates a reliance -no use of clinical judgement	1
	Unnecessary equipment provision - against judgement	8
To be decided	Confidence in clinical judgement lost	1
	Uses judgement for care planning	8
	Clinical Judgement still required	4
	Clinical skills not recognised - tool not required	1
	Felt aimed toward novices	2
	Subjective Open to interpretation	4
	Difficulties of completion	1
Difficulties of completion	BMI Issues	2
	Lack of flexibility	1
	Disconcordance - Risk	13
	Age as risk - Incorrect identification	1
	Full Mobility But Scored at Risk	3
Disconcordance	Long-term condition incorrectly scores as risk	1
	Risk inaccurately Identified	1
	Score not true reflection of status	1
	Tool over estimates risk	4
	Ease of Completion	2
Ease of Completion	Physicality easiest to complete	1
	Provides Good indication	1
	Waterlow easy to complete	0
	Equipment Issues	2
Equipment Issues	Feel forced to prescribe equipment	1
	Tool encourages equipment over spend	1
	Inconsistency	2
Inconsistency	Clinicians score differently	1
	Inconsistency of completion	1
	Tool Failures	8
	Cognition	1
	Fails to identify dementias	1
	fails to Identify frailty	1
Tool Failures	Fails to identify mobility	1
	Fails to identify movement or seating plan	1
	Fails to identify Organ failure	1
	Fails to Identify Potential for shearing	0
	Fail to identify End of Life care	1
	Patient concordance factors	1
	Tool not new user friendly	1
Tool Issues	Tool out of date	1

	Tool requires an experienced user	1
	Tool Transferability to Community	1
	Tool used against clinicians	1
	Used only for identifying & monitor frailty	1
	There are better tools	1
	Tool over estimates risk	33
	Tool underestimates risk	6
	When used correctly great tool	1
Difficulties	Difficult - Clinicians Score inconsistently	8
	Difficult - Defining & Categorising patients	5
	Difficult - Grading risk as 4,5 or 6	6
	Difficult - Tool removes clinical judgement	1
	Difficult if make error or miss section	2
	Difficult to complete without PMH	9
	Entire tool difficult to complete	1
	Discordant scoring across organisations	2
Easiest Features	Easiest Features	38
	Age	10
	BMI	6
	Continence	2
	Gender	9
	Mobility	2
	Nutrition	1
	Part 1	2
	Skin Status	2
	Smoker non-smoker	1
	Weight	3
Hardest Features	Hardest Features	40
	Dementias	2
	Diabetes	6
	Height	1
	Medical Conditions	2
	Medications	3
	Mobility	3
	Motor Sensory	5
	Negative - Difficult to establish changes in patient health	1
	Neurological	6
	Organ Failures	5
	Positive - identifies high risk	1
	Positive - tool familiarity	2
	Skin	1
	Weight	2
Tool Issues	No problems reported with tool	4
	Tool design makes it easy to complete	7
	Tool easy to Use or complete	12
	Tool Not relevant for the Community	1
	Tool promotes confusion	4
	Tool questions not always relevant	3

	Tool Questions not well defined	3
	Difference - Clinicians scoring Inconsistent	2
Difference	Difference between score and judgement	60
	High Score - medications	2
	High score - Smoker	1
	High Score but attends own ADL	3
	High score but independent	9
	High Score but manages disease	1
	High Score but mobile	24
	High Score but nutrition ok	1
	High score but ok health	1
	High score but skin intact	1
	High score comorbidities	5
	High score due to age	4
	High Score due to diabetes	1
	High score due to frailty	1
	High Score due to organ failure	3
	High score due to PMH	2
	Equipment prescribed based only on score	3
Fear	Fear if don't equip when score is high	2
	If judgement says not at risk - score says is so score i.e. relevant & must be followed	1
	Patient understands risk & mediates	1
	Patient unexpected scores highly	8
	Patients not identified as at risk when are	5
	Negative - All Patients assessed even if judged not at risk	2
Negative	Negative - Culture of Fear	7
	Negative - Defining categories difficult	1
	Negative - Encourages Equipment Over-order	4
	Negative - Equipment prescribed & not used	1
	Negative - Inaccurate Completion still occurring	1
	Negative - Inaccurate estimation of risk	10
	Negative - Impersonal	1
	Negative - Irrelevance of questions	4
	Negative - No longer fit for purpose	2
	Negative - No palliative care consideration	1
	Negative - Outdated	1
	Negative - Raises difficult discussions with patients	1
	Negative - Removes clinical judgement	4
	Negative - too long	1
	Negative - too much focus on score	5
	Negative - too subjective	6
	Negative-Constrained Inaccurate reflection for patient care	4
	Negative-Pushes equipment when patient not want	1
	Positive - Aids immediate response to risk	1
Positive	Positive - Breadth of factors considered	3
	Positive - can pre-empt patient needs	1
	Positive - Facilitates monitoring & Alerts Change	4

	Positive - guides good care planning	2
	Positive - overall for identifying risk	5
	Positive - prescribes equipment	2
	Positive - Score immediately guides care	2
	Positive - Speed for completion	6
	Positive - E-learning package & training	2
	Positive - Its a framework to work to	12
	Clinician scoring inconstancy results in varied effectiveness	1
Effectiveness Issues	Contributes to holistic view	4
	Effective for identifying risk & care planning	8
	Effective if patient wants or uses equipment	1
	Prompts aid effectiveness	1
	Requires accuracy to be effective	3
	Requires context - judgement	4
	Requires time to complete to be effective	1
	Requires other factors to be effective	8
	Results in ineffective care planning	2
	Tool not reflect patient needs	1
	Tool not sensitive to subtle change	1
	Tool part of the process of care planning	9
	Tool used in isolation	2
	Unsuitable for some patients	3
	Used it as a guideline for effective assessment	7
	Yes effective with caveat	9
	Feel forced to escalate provision	5
Effect of tool on Equipment provision	Feels need to Justify provision	2
	No Judgement Score dictates need	8
	Over prescribes with a plan to reduce provision	1
	Score may not correlate with equipment need	22
	The way tool used has changed	3
	Tool aids Equipment considerations	21
	Tool does not promote use of Clinical Judgement	10
	Tool makes deciding equipment provision difficult	1
	Tool promotes culture of blame	14
	Tool raises unrecognised warnings - Good	2
	Need for Clinical Judgement	35
	Anything to add Feedback	0
Additional Feedback	Better training of staff	1
	Gave feedback	19
	Must use clinical judgement	1
	No thanks to commenting	10
	Only experienced staff should use	1
	Recognised need for tool	4
	Request for change	6
	Scoring Variation - misleading	9
	Take too long to complete	2
	Too much focus on scoring	6
	Tool improvement suggestions	1
	Tool needs to reflect nuances of patient needs	8

Organising Theme		Codes
Appropriateness of descriptors		Appropriateness of descriptors
		Appropriateness for clinical environment
		Inaccurate blunt ridged etc
		Predictors tool ignores - needs renaming
		Promotes confusion - Lack of guideline/descriptors
Assessment issues or Assessment accuracy or Assessment Influences	Difficulties	Difficult to assess factors
		Defining & categorising
		External factors required - External input required for accurate assessment
	Discordance	Discordant assessment score & clinical status
		No experience of discordance
	Facilitators	Negative Factors
		Positive factors
		Easy to assess factors
		External influence
		Assessment Difficulties
		Assessment Confidence
		Inaccurate/blunt/ridged
		Assessment Inconsistency
		Its Out Dated
		Assessment accuracy
		Assessment Issues Identified
		Judgement overrides WL outcome
		External input required for accurate assessment
Care Delivery		Focus on score (rather than judgement – reactive care rather than proactive or Reliance on score for care delivery
		Reliance on score for care delivery
		Needs to be used conjunctionally
		Conjunctional Use
		No influence on clinical decision making
		Patient experience
		Provides guidance
		Provides good guidance
		Demonstrates monitoring
		Score manipulation
		Holistic View
		Widens clinical considerations
		Forced to prescribe
Culture of Fear		Clinicians have lost confidence in own abilities
		Loss of clinical judgement
		Not supported used as weapon against clinicians
		Forced to prescribe
		Identifies Need for change
Agreement Caveated or It is but … (Caveated Response)		agreement Caveat
Interpretability		Inter-rater reliability = Inconsistency Variation in scoring levels - Rename
		Loss of Clinical Judgement
		Prompts clinical considerations
Concordance between clinicians reliability = Variation in scoring levels		Promotes confusion
Presses need for wider clinical judgement – answering question demonstrates their use of clinical judgment for the response		Wider considerations required

Sensitivity Accuracy	Case Presentation	Tool over predicts or Over prediction
		Tool under predicts or Under prediction
		Tool Sensitivity Varies
		Not sensitive to subtle change or Not Sensitive enough
Considerations - concept links to assessment score & clinical status particularly strongly expressed in relation to asking about reliability and effectiveness		Difficult to establish Changes
		Inaccurate/bunt/ridged etc
Tool Design		Design user friendly
		Difficult for Novice use
		Easy to use
		Not new user friendly
		Quick to complete
		Time consuming to complete
		Tool design limitations
Need For Change		Reflect Nuances
		Requests Change
Knowledge of Patient		Ambiguities
		Patient Experience
Suitability		Suitability of tool for its environment
		Have to assess when not at risk
		Relevance for clinical environment
		Relevance of Risk factors - what's the difference between these
		Factors does not take into account
Clinical Judgement or Interpretability or Ways of thinking		It doesn't replace your clinical judgment or Your clinical judgment is required as well Presses answering question demonstrates their use of clinical judgment for the response
		Often Does not reflect Clinical Status
		Removed confidence to make clinical Decisions
		It doesn't influence my decision making
		Influences on decision making
		Extrapolating Predictive value Problem framing
		Experiences - perceptions
		Frequently does not reflect clinical status
		It does not allow for clinical Judgement

APPENDIX K

SURVEY

THEMATIC ANALYSIS

ROUND 3

Key Theme	Sub-Theme	Sub-Identifiers	Exemplifying Quotation	Coding r		Thoughts Guiding Development
Confidence in tool supporting clinical decision making 449		Prompts Clinical Considerations	" written prompts remind you what to look for when assessing patients" CN11561	38	17 %	Basic themes capture specific concepts and meaning, Central Themes group the Basic Themes as wider concepts The Organizing Themes are wide & conceptually driven - all theme identified within & across codes of R1 & R2. Codes have been rearranged to reflect organizing themes introduce in this round
		Provides Good Guidance	"They are good as guidelines but a full assessment required to ensure other nursing needs are met" TH16050	17	8 %	Considered introducing two Organizing Themes to bring together the Main Themes of *Highlighting the potential risk of pressure ulcer development*. *Assessing risk* grouping Care Delivery and *Collecting Information* to group the rest of the codes. I think this just adds themes for the sake of adding themes rather that supporting & driving theme identification
		Monitors & Alerts Change	"Guideline to assist with provision of equipment and to plot and review patient needs." CN11542	8	4 %	
		Patient Experience	it can sometimes become uncomfortable discussing equipment with the patient but then you still have to give a rationale" CN10562	9	4 %	
		It is ok but...	"Generally [yes] but can still be open to interpretation" CN11542	16	7 %	
		Clinician Subjectivity & Inconsistency	"People do not consistently complete the boxes" CN21566	36	16 %	Began within Clinical Judgment as a central theme - dispersed to better reflect theme in its context - this is identified as a wider concept if not being used correctly & there is inconsistency there is a need for change & could be a driving factor for the problems arising.
		Inaccurate Completion	"this is still completed inaccurately" NS11112	2	1 %	Assessment consistency is part of sensitivity accuracy - this Sub-Theme instigated swop of sensitivity accuracy & Interpretability themes
		Tool Questions not well defined	"Tick boxes are easy but do not always encompass all that is needed, need to add this into summary afterwards if further information to add" OT11518	4	2 %	This Sub-Theme relates to reliability of Waterlow
		Promotes confusion	"Easiest feature is that it is tick boxes, however this becomes more difficult when you have to grade things such as diabetes with either 4, 5 or 6" CN20559	18	8 %	Sub-theme modified 14/03/16 from Defining & Categorising Patients - this is too specific to capture the sub-identifiers
				60	27 %	
		Sensitivity Varies	"occasionally a client will present with high waterlow score but be completely independent, mobile & able to get out & about . This means equipment required if any does not meet waterlow indicators . Some with low waterlow require full level 4 equipment due to fragility" CN11141	37	17 %	Tool design reflections important as can use leaning to support implementation – PURPOSE-T needs to support each of these codes as much as possible. Began as a central theme *Sensitivity Accuracy* better reflected as a Basic Theme. The Central Theme *interpretability* better reflects the wider concept & captures the additional Basic Themes.
		Under Predicts	"people can sometimes score low but clinical judgement puts them at risk" OT11518	8	4 %	
		Not sensitive enough	"Its too rigid" CN26065	3	1 %	
		Difficult to establish changes in patient health	"No, too blunt. Chronic disease patients have high scores which do not increase significantly when their condition is deteriorating. For example, if a patient has mild oedema, they score the same as severe oedema as there is no variation in scoring available." NS21558	32	14 %	There is text coded in *the recognized as in accurate* code that can be coded as difficult to establish instead - there are often instances blaming others for in effectiveness needs exploring
				80	13 6 %	

Confidence in tool supporting clinical decision making 449	It just doesn't reflect clinical status	Sometimes the waterlow comes out with a higher score indicating equipment is required when clinically I do not agree with this. CN11568 " .. there is too much variation in use of some factors for example diabetes…" NS21558	77	35 %	This Sub-Theme reflects validity of waterlow moved to relevance as think it is better reflected here
	Relevance of Risk Factors	"…it is not always that relevant"	23	10 %	Taken from round 1 is fitting to explore and highlight ideas & meaning around reverence of questions particularly when other codes explore this issue - almost a funneling from environment to confusion
	Not an accurate and reliable predictor of risk factors overlooked 47	"does not take into account frail, elderly dementia GSF registered" CN21567	47	21 %	Facilitators and barriers as wide concepts in reflection of care delivery central theme
	Requires FMH		(9)		
	Neurological		(6)		Codes Recognized as Inaccurate & Outcome not True Reflection of clinical status are reflections of one another. NVIVO identified 14 over laps in recognized as inaccurate the 10 non-overlaps highlight *relevance of questions* - this has been added as an additional code within barriers collection information & Recognized as Inaccurate has been removed. Changed sensitivity accuracy & interpretability around.
	Organ Failures		(6)		
	Diabetes		(6)		
	Motor Sensory		(5)		
	Mobility		(4)		All within this box are barriers for confidence
	Cognition		(4)		
	BMI Issues		(2)		
	Medical Conditions		(2)		
	Frailty		(1)		
	Movement or seating plan		(1)		
	Palliative care		(1)		
	Potential for shearing		(1)		
	Over Predicts - Predictors over estimated	"waterlow seems to put everyone at risk over 65 even when they are fully mobile." CN21557	62	28 %	
	Mobility		(28)		Central theme needed to capture what it means to be supported by a the tool & considerations of its support - Interpretability first used to describe sensitivity accuracy code - better used as a wider concept
	High score but independent		(9)		
	Age		(8)		
	High score comorbidities		(5)		
	High Score due to organ failure		(3)		
	High score due to PMH		(2)		
	Medications		(2)		
	High Score due to diabetes		(1)		
	High score due to frailty		(1)		
	Long-term conditions		(1)		
	Smoker		(1)		
			209	94 %	

Cultural Context 202	Defensively Nursing 108	Nursing by Numbers	"clinicians focus on the score rather than the needs of the patient" NS11112	34	15 %	important concept carried through coding rounds. 15.03.16 concept added to *Cultural Context* better links with theme. *Nursing By Numbers* as a sub-theme also renamed in favour of combining with Defensively Nursing as a sub-theme. Nursing by numbers if a factor of nursing by numbers Merged No Judgement Score dictates need with Nursing by numbers as it is reflection of nursing by numbers
		It doesn't Replace Your Clinical Judgement	"but clinical judgement and experience should also be applied" CN11153	54	24 %	clinical judgment - in vivo coded Theme identifiers - has remained constant at every round - began as a central theme but needed to be dispersed across codes as it is reflected in most coding - to become a basic theme
		The way tool used has changed	" initially it was a tool used as part of the assessment, then it was used without clinical judgement to provide pressure relieving equipment." CN21552	3	1 %	combines both above codes - funneling from wide concept of care barriers - could nursing by numbers be basic & other two sub themes - if identified like this then doesn't convey the analysis as clearly does give as wide a picture
		Pressure to Prescribe	"It makes me over-prescribe" NS21558	23	10 %	*Cultural context* added to bring together themes within as a concept - difficult finding a naming organizing theme. Easy to be biased as the cultural context comes across quite negatively but being open about problems is what drive change & the honesty is better than not giving voice to issues & not challenging the status quo. Change comes from challenges.
		Environment of Fear	"we used to use our clinical judgement when doing an assessment but now are too worried about the blame culture that we put in equipment in to houses were the patients are fully mobile but have high Waterlow"	22	10 %	*Culture of blame* & *Need for Change* began as a Central Themes - *Cultural Context* brings together Culture of blame & Need for Change as concepts & paints a cleared picture I think Defensively nursing is a better name for the Sub-Theme
		Equipment provision - against judgement	The patient can be in fairly good health and mobile, yet they can end up with a high waterlow score meaning they require equipment which isn't always necessary. HS10549	8	4 %	Was called Unnecessary Equipment provision against judgement. Re-worded concept remains
		Removed Confidence to make clinical decisions	"RCA process and CCG attitude is geared to blame clinician whatever their choice regardless of comorbid and frailty factors." CN21537	18	8 %	Began within *Clinical Judgment* as a central theme - dispersal better reflects theme of confidence removal contextually
				162	73 %	
	Request Change 40	This is not the right environment for the tool	"It is too sensitive and over estimates risk. It was not designed for the community and is a post op tool. CN21537	14	6 %	
		Needs to reflect nuances of patient needs	"it needs updating for the age and comorbidity of today's patients" CN11516	20	9 %	
		Need for change	"Please replace it as soon as possible." NS21558	6	3 %	Sub-Theme Moved to *Cultural Context* 15.03.16
				40	18 %	
Usability 42		Easy to use	"It is easy to complete generally' NS21558 "Nothing is difficult with this tool" TH21151	19	9 %	usability Added in R3 to aggregate tool usability - this is conveyed as easy/difficult & time required. Ease of use Began as a central theme but better conveyed under the wider concept of interpretability - *interpretability* removed in favour of usability theme
		Difficult to use	.."newer staff seem to be fazed by specifics on it' CN11511 "If miss an area can make a big difference to score E.G. if don't tick the organ failure etc." OT11546	4	2 %	difficult to define as facilitating collecting information - but there has to be balance because barriers are identified facilitators also need to be identified - there are none, just identification of no problems & it more relates in context to collecting information than as care delivery -

	Felt aimed toward novices	"acts as a guide for novice nurses" CN21122	2	1 %	This demisters answers from those using for a long time & use judgment more than tool - maybe those that see the tool as a tick box exercise
	Tool design features	"Tick boxes make it easy to use"CN11561	7	3 %	the fact tick boxes mentioned a few times is important for the design of the implementation - demonstrates needs to be easy to use to enhance acceptability
	Quick to complete	"Quick to complete" CN21552	6	3 %	
	Time Consuming	"it is very hard to undertake due to the limited time we have to assess patients." CN26047	2	1 %	
	Best use of time	"some patients score high but are fully mobile , but due to high waterlow score means we have to carry out a SSKINS on each visit which for diabetics this is on a daily bases this can be quite pointless for those patients that are obviously not at risk ." CN21515	2	1 %	merged with asses when not at risk - & renamed to better capture narratives
			42	19 %	

APPENDIX L

WITHIN ROLES ANALYSIS

PERCEPTIONS OF WATERLOW RELIABILITY IDENTIFYING RISK

Time Using Waterlow Influence on Considerations of Waterlow Reliability identifying Risk

Years Using Waterlow	Yes	%	No	%	Skip	%	Count	%
0-5 (n=17)	9	53%	7	41%	1	6%	17	29%
6-10 (n=9)	5	56%	4	44%	0	0%	9	15%
11-15 (n=8)	5	63%	3	38%	0	0%	8	14%
15+ (n=25)	14	56%	10	40%	1	4%	25	42%
Total	33		24		2		59	
Percent	56%		41%		3%			

OVERALL - Time Considerations of Reliability								
	Yes	%	No	%	skip	%	Count	%
0-5	9	15%	7	12%	1	2%	17	**29%**
6-10	5	8%	4	7%	0	0%	9	**15%**
11-15	5	8%	3	5%	0	0%	8	**14%**
15+	14	24%	10	17%	1	2%	25	**42%**
Tot	**33**		**24**		**2**		59	
percent	**56%**		**41%**		**3%**		**100%**	

Community Nurse (n=38) only Considerations of Reliability					Count	Count %	% CN n=38
	0-5	6-10	11-15	15+			
Yes	3	3	4	11	21	**36%**	**55%**
No	2	4	2	9	17	**29%**	**45%**
Skipped	0	0	0	0	0	**0%**	**0%**
Total	5	7	6	20	**38**		
Percent	8%	12%	10%	34%	**64%**		

Healthcare Support Worker (n=8) only Considerations of Reliability					Count	Count %	% HSW n=8
	0-5	6-10	11-15	15+			
Yes	4	1	0	0	5	**8%**	**63%**
No	2	0	0	0	2	**3%**	**25%**
Skipped	1	0	0	0	1	**2%**	**13%**
Total	7	1	0	0	**8**		
Percent	12%	2%	0%	0%	**14%**		

Nurse Specialist (n=4) only Considerations of Reliability					Count	Count %	% NS n4
	0-5	6-10	11-15	15+			
Yes	1	0	1	1	3	**5%**	**75%**
No	0	0	0	1	1	**2%**	**25%**
Skipped	0	0	0	0	0	**0%**	**0%**
Total	1	0	1	2	**4**		
Percent	2%	0%	2%	3%	**7%**		

Other Roles (n=4) Only Considerations of Reliability					Count	Count %	% O n=4
	0-5	6-10	11-15	15+			
Yes	0	1	0	2	3	**5%**	**75%**
No	0	0	0	0	0	**0%**	**0%**
Skipped	0	0	0	1	1	**2%**	**100%**
Total	0	1	0	3	**4**		
Percent	0%	2%	0%	5%	**7%**		

Therapist (n=5) Only Considerations of Reliability					Count	Count %	% T n=5
	0-5	6-10	11-15	15+			
Yes	1	0	0	0	1	**2%**	**20%**
No	3	0	1	0	4	**7%**	**80%**
Skipped	0	0	0	0	0	**0%**	**0%**
Total	4	0	1	0	**5**		
Percent	7%	0%	2%	0%	**8%**		

APPENDIX M

WITHIN ROLES ANALYSIS

PERCEPTIONS OF WATERLOW EFFECTIVENESS GUIDING CARE PLANNING

Overall Time Influence on Considerations of effectiveness								
Years using	Yes	%	No	%	skip	%	Total	%
0-5	5	8%	3	5%	9	15%	17	**29%**
6-10	5	8%	4	7%	0	0%	9	**15%**
11-15	4	7%	4	7%	0	0%	8	**14%**
15+	11	19%	12	20%	2	3%	25	**42%**
Tot	**25**		**23**		**11**		59	
percent	**42%**		**39%**		**19%**			

	Community Nurse (n=38)				Total	Total %	% CN n=38
	0-5	6-10	11-15	15+			
Yes	2	3	4	10	19	**32%**	**50%**
No	1	4	2	9	16	**27%**	**42%**
Skipped	2	0	0	1	3	**5%**	**8%**
Total	5	7	6	20	**38**		
Percent	8%	12%	10%	34%	**64%**		

	Healthcare Support Worker (n=8)				Total	Total %	% HSW n=8
	0-5	6-10	11-15	15+			
Yes	1	1	0	0	2	**3%**	**25%**
No	0	0	0	0	0	**0%**	**0%**
Skipped	6	0	0	0	6	**10%**	**75%**
Total	7	1	0	0	**8**		
Percent	12%	2%	0%	0%	**14%**		

	Nurse Specialist (n=4)				Total	Total %	% NS n4
	0-5	6-10	11-15	15+			
Yes	1	0	0	0	1	**2%**	**25%**
No	0	0	1	2	3	**5%**	**75%**
Skipped	0	0	0	0	0	**0%**	**0%**
Total	1	0	1	2	**4**		
Percent	2%	0%	2%	3%	**7%**		

	Other (n=4)				Total	Total%	% O n=4
	0-5	6-10	11-15	15+			
Yes	0	1	0	1	2	**3%**	**50%**
No	0	0	0	1	1	**2%**	**25%**
Skipped	0	0	0	1	1	**2%**	**25%**
Total	0	1	0	3	**4**		
Percent	0%	2%	0%	5%	**7%**		

	Therapist (n=5)				total	Count %	% T n=5
	0-5	6-10	11-15	15+			
Yes	1	0	0	0	1	**2%**	**20%**
No	2	0	1	0	3	**5%**	**60%**
Skipped	1	0	0	0	1	**2%**	**20%**
Total	4	0	1	0	**5**		
Percent	7%	0%	2%	0%	**8%**		

APPENDIX N

WITHIN ROLES ANALYSIS

EXPERIENCE OF DIFFERENCE BETWEEN CLINICAL JUDGEMENT & WATERLOW OUTCOME

Time Using Waterlow Influence of Difference Between Clinical Judgment and Assessment Outcome

Timeframe	Yes	%	No	%	Skip	%	Count	%
0-5 (n=17)	11	65%	3	18%	3	18%	17	**29%**
6-10 (n=9)	6	67%	3	33%	0	0%	9	**15%**
11-15 (n=8)	6	75%	2	25%	0	0%	8	**14%**
15+ (n=25)	22	88%	0	0%	3	12%	25	**42%**
Total	45		8		6		59	
percent	**76%**		**14%**		**10%**			

OVERALL Time Influence on Experience of Difference								
	Yes	%	No	%	skip	%	Total	%
0-5	11	19%	3	5%	3	5%	17	**29%**
6-10	6	10%	3	5%	0	0%	9	**15%**
11-15	6	10%	2	3%	0	0%	8	**14%**
15+	22	37%	0	0%	3	5%	25	**42%**
Tot	**45**		**8**		**6**		59	
percent	**76%**		**14%**		**10%**			

	Community Nurse (n=38)				Total	Total %	% CN n=38
	0-5	6-10	11-15	15+			
Yes	4	5	4	18	31	**53%**	**82%**
No	0	2	2	0	4	**7%**	**11%**
Skipped	1	0	0	2	3	**5%**	**8%**
Total	5	7	6	20	**38**		
Percent	8%	12%	10%	34%	**64%**		

	Healthcare Support Worker (n=8)				Total	Total %	% HS n=8
	0-5	6-10	11-15	15+			
Yes	4	1	0	0	5	**8%**	**63%**
No	2	0	0	0	2	**3%**	**25%**
Skipped	1	0	0	0	1	**2%**	**13%**
Total	7	1	0	0	**8**		
Percent	12%	2%	0%	0%	**14%**		

	Nurse Specialist (n=4)				Total	Total t %	% NS n=4
	0-5	6-10	11-15	15+			
Yes	0	0	1	2	3	**5%**	**75%**
No	1	0	0	0	1	**2%**	**25%**
Skipped	0	0	0	0	0	**0%**	**0%**
Total	1	0	1	2	**4**		
Percent	2%	0%	2%	3%	**7%**		

	Other Professions (n=4)				Total	Total %	% OP n=5
	0-5	6-10	11-15	15+			
Yes	0	0	0	2	2	**3%**	**40%**
No	0	1	0	0	1	**2%**	**20%**
Skipped	0	0	0	1	1	**2%**	**20%**
Total	0	1	0	3	**4**		
Percent	0%	2%	0%	5%	**7%**		

	Therapist (n=5)				Total	Total %	%TH n=5
	0-5	6-10	11-15	15+			
Yes	3	0	1	0	4	**7%**	**80%**
No	0	0	0	0	0	**0%**	**0%**
Skipped	1	0	0	0	1	**2%**	**20%**
Total	4	0	1	0	**5**		
Percent	7%	0%	2%	0%	**8%**		

APPENDIX O

ANONYMISED SYSTMONE CHANGE REQUEST

<table>
<tr><td><u>Full</u> details of request</td><td>Integration of the pressure ulcer prevention PURPOSE-T Pressure Ulcer Risk Assessment Framework</td></tr>
<tr><td><u>Full description</u> of request/requirements, (please attached relevant documents to support pipeline request form.)</td><td>To integrate PURPOSE-T into SystmOne using the file provided.</td></tr>
<tr><td>Why is this change needed?</td><td>The Waterlow Pressure ulcer risk assessment tool is the choice of tool across the Trust. Nurse led review of patient records and analysis of Trust conducted RCAs, evidence the development of problematic themes with Waterlow usage. To address these issues we would like to introduce the PURPOSE-T Pressure Ulcer Risk Assessment Framework.</td></tr>
<tr><td>What are the benefits to this change? (place tick in relevant box)</td><td><table><tr><td>Financial</td><td>X</td></tr><tr><td>Patient Care</td><td>X</td></tr><tr><td>Record Keeping</td><td>X</td></tr><tr><td>Other (please specify)</td><td></td></tr></table>Comments:
We believe the introduction of PURPOSE-T will not only have a positive impact on current risk assessment strategies but also provide an opportunity to revisit the entire education around pressure ulcer prevention and management and therefore promote practice to reduce health costs and improve patient experience and outcomes.</td></tr>
<tr><td>What is the risk to the patient if this change is not completed?</td><td>Continued use of Waterlow risk tool already in use</td></tr>
<tr><td>Name</td><td>Heidi Green</td></tr>
<tr><td>Service</td><td></td></tr>
<tr><td>SystmOne Unit affected (i.e. NE Adult Integrated Services, Johnson Community Hospital)</td><td>All Adult Units</td></tr>
<tr><td>Manager's name</td><td></td></tr>
<tr><td>Date of Request</td><td>26th October 2015</td></tr>
<tr><td>Rating and date</td><td>REJECTED/RED/GREEN/AMBER Date:</td></tr>
</table>

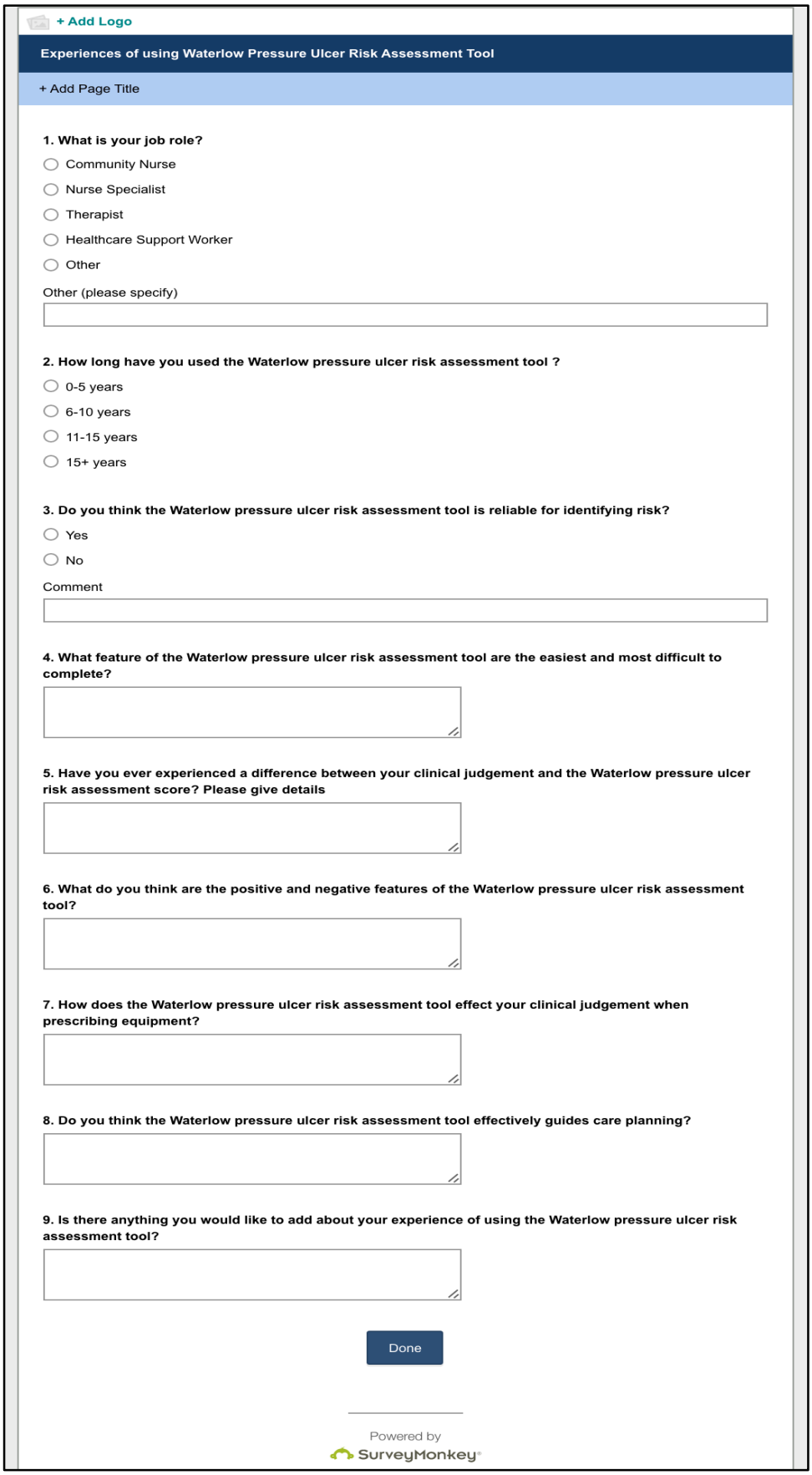
Completed forms to be sent to –
Clearly stating "SystmOne Change Request" as the Subject.

Before forwarding the form to Helpdesk please make sure the request has been Rated and all relevant information supporting the request has been attached, so we can proceed with this work accordingly.
Please ensure all rejected requests are also returned.
Any incomplete requests will be refused and returne

APPENDIX P

EXPERIENCES OF USING THE WATERLOW PRESSURE ULCER RISK ASSESSMENT TOOL, QUESTIONNAIRE (EUWT-Q),

ONLINE APPEARANCE



+ Add Logo

Experiences of using Waterlow Pressure Ulcer Risk Assessment Tool

+ Add Page Title

1. What is your job role?

- ○ Community Nurse
- ○ Nurse Specialist
- ○ Therapist
- ○ Healthcare Support Worker
- ○ Other

Other (please specify)

2. How long have you used the Waterlow pressure ulcer risk assessment tool ?

- ○ 0-5 years
- ○ 6-10 years
- ○ 11-15 years
- ○ 15+ years

3. Do you think the Waterlow pressure ulcer risk assessment tool is reliable for identifying risk?

- ○ Yes
- ○ No

Comment

4. What feature of the Waterlow pressure ulcer risk assessment tool are the easiest and most difficult to complete?

5. Have you ever experienced a difference between your clinical judgement and the Waterlow pressure ulcer risk assessment score? Please give details

6. What do you think are the positive and negative features of the Waterlow pressure ulcer risk assessment tool?

7. How does the Waterlow pressure ulcer risk assessment tool effect your clinical judgement when prescribing equipment?

8. Do you think the Waterlow pressure ulcer risk assessment tool effectively guides care planning?

9. Is there anything you would like to add about your experience of using the Waterlow pressure ulcer risk assessment tool?

Done

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APPENDIX Q

PURPOSE-T PAPER VERSION

&

PURPOSE-T ON SYSTMONE

Pressure Ulcer Risk Assessment - PURPOSE T

Patient name	DOB	Hospital/NHS number	Ward

Step 1 - screening

Mobility status - *tick all applicable*

- Walks independently with or without walking aids
- Needs the help of another person to walk
- Spends all or the majority of time in bed or chair
- Remains in the same position for long periods

If **ANY** yellow boxes are ticked, **go to Step 2**

If **ONLY** blue box is ticked

Skin status - *tick all applicable*

- Normal skin
- Current PU category 1 or above?
- Reported history of previous PU?
- Vulnerable skin e.g. blanchable redness that persists, dryness, paper thin, moist

If **ANY** yellow or pink boxes are ticked, **go to Step 2**

If **ONLY** blue box is ticked

No pressure ulcer not currently at risk

Tick if applicable

Not currently at risk pathway

Step 2 - full assessment

Complete ALL sections

Analysis of independent movement

Tick the applicable box (where frequency and extent categories meet)

Frequency of position changes	Extent of independent movement: Doesn't move	Slight position changes	Major position changes
Doesn't move	☐	N/A	N/A
Moves occasionally	N/A	☐	☐
Moves frequently	N/A	☐	☐

Sensory perception and response *tick as applicable*

- No problem
- Patient is unable to feel and/or respond appropriately to discomfort from pressure

Moisture due to perspiration, urine, faeces or exudate - *tick as applicable*

- No problem/Occasional
- Frequent (2-4 times a day)
- Constant

Diabetes - *tick as applicable*

- Not diabetic
- Diabetic

Perfusion - *tick all applicable*

- No problem
- Conditions affecting central circulation eg. shock, heart failure, hypotension
- Conditions affecting peripheral circulation eg. peripheral vascular/arterial disease

Nutrition - *tick all applicable*

- No problem
- Unplanned weight loss
- Poor nutritional intake
- Low BMI (less than 18.5)
- High BMI (30 or more)

Vulnerable skin (precursor to PU) e.g. blanchable redness that persists, dryness, paper thin, moist.
NPUAP / EPUAP Pressure Ulcer Classification System (2009)
Cat 1 Non-blanchable redness of intact skin
Cat 2 Partial thickness skin loss or clear blister
Cat 3 Full thickness skin loss (fat visible/ slough present)
Cat 4 Full thickness tissue loss (muscle/bone visible)
Cat U (Unstageable/Unclassified): full thickness skin or tissue loss - depth unknown

Current Detailed Skin Assessment - *for each skin site tick applicable column for either normal skin, vulnerable skin or record PU category if applicable. Tick if pain, soreness or discomfort present at any skin site as applicable.*

Skin site	Normal skin	Vulnerable skin	PU category	Pain
Sacrum	☐	☐		☐
L Buttock	☐	☐		☐
R Buttock	☐	☐		☐
L Ischial	☐	☐		☐
R Ischial	☐	☐		☐
L Hip	☐	☐		☐

Skin site	Normal skin	Vulnerable skin	PU category	Pain
R Hip	☐	☐		☐
L Heel	☐	☐		☐
R Heel	☐	☐		☐
L Ankle	☐	☐		☐
R Ankle	☐	☐		☐
L Elbow	☐	☐		☐

Skin site	Normal skin	Vulnerable skin	PU category	Pain
R Elbow	☐	☐		☐
Other - *detail below if applicable*				
	☐	☐		☐
	☐	☐		☐
	☐	☐		☐
	☐	☐		☐

Previous PU history *tick as applicable*

- No known PU history
- PU history - *complete below*
- Number of previous pressure ulcer(s):

Detail of previous PU (if more than 1 previous PU give detail of the PU that left a scar or worst category).

Approx date	Site	PU cat	Scar	No scar
			☐	☐

Other relevant information (if required):

Step 3 - assessment decision

If **ANY pink boxes** are ticked/completed, the patient has an existing pressure ulcer or scarring from previous pressure ulcer.

PU Category 1 or above or scarring from previous pressure ulcers

Tick if applicable ☐

Secondary prevention and treatment pathway

If **ANY orange boxes** are ticked (but no pink boxes), the patient is at risk.

No pressure ulcer but at risk

Tick if applicable ☐

Primary prevention pathway

If **only yellow and blue boxes** are ticked, the nurse must consider the risk profile (risk factors present) to decide whether the patient is at risk or not currently at risk.

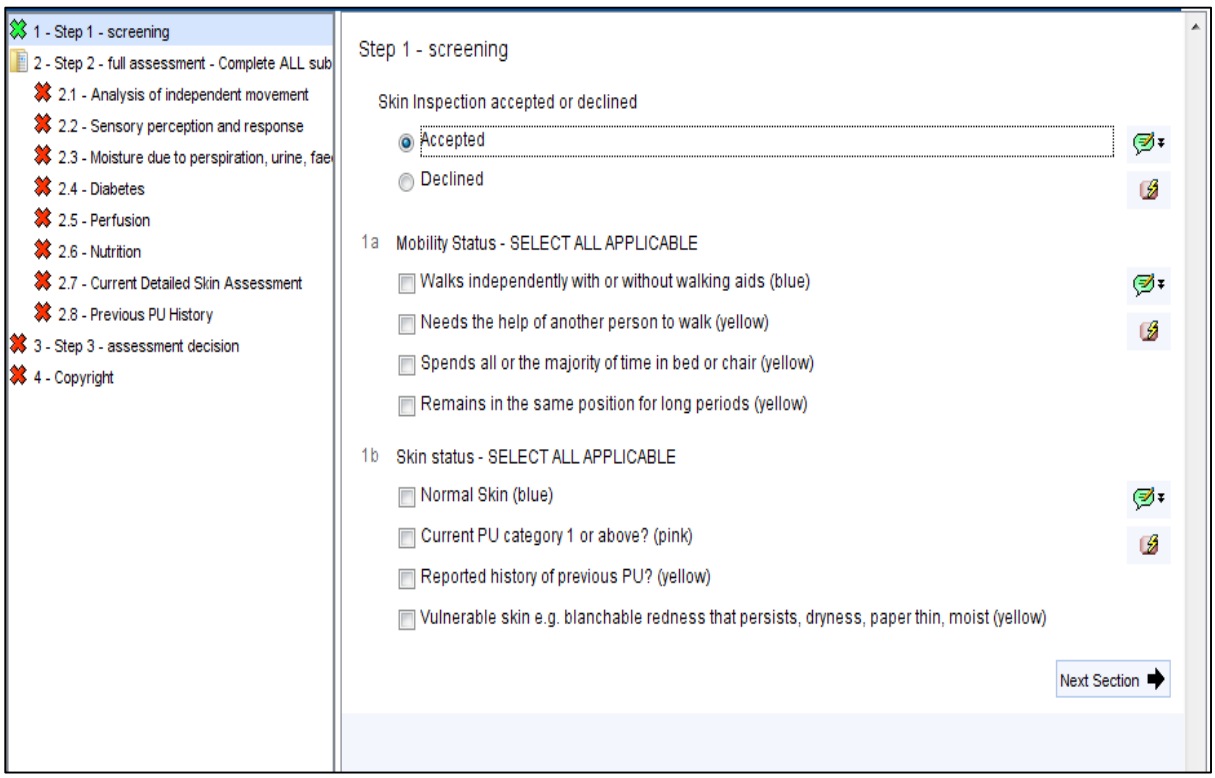
No pressure ulcer not currently at risk

Tick if applicable ☐

Not currently at risk pathway

Nurse printed name	Nurse signature	Date

PURPOSE-T ON SYSTMONE EXAMPLE



APPENDIX R

PURPOSE-T
EDUCATIONAL DEVELOPMENT

TRAINING MATERIALS OVERVIEW

PRESSURE ULCER PREVENTION CARE PATHWAYS (PUPPS)

GUIDE FOR SUPPORT SURFACE PROVISION

PURPOSE-T TRAINING PACKAGE OVERVIEW

VISUALLY LED EDUCATIONAL PACKAGE

TEXT LED EDUCATIONAL PACKAGE

ACCESSING PURPOSE-T AND EQUIPMENT GUIDANCE

ACCESSING THE VOTING PLATFORM

Learning from implementation

Once the training began to be delivered, the approach of using s slide presentation training package proved to be difficult to deliver in settings where no overhead projection was available. Training was delivered with the trainer taking the learners step by step through PURPOSE-T usage, whilst learners used SystmOne on their own computer. The visually training materials was used by the trainer as an 'aide memoire' to ensure every step of the training was delivered. The educational materials were then made available for learners to use as a guide. The presentation is long because a screen-shot of SystemOne is provided for every step of the PURPOSE-T assessment and the length of presentation was considered as 'off putting'.

To ensure learners were optimally guided in PURPOSE-T usage and ensure leaners had a shorter version of PURPOSE-T training, a textually led education package was developed based on the Trusts PURPOSE-T supporting document for the new Holistic and Mandatory SystmOne templates. This is anticipated to alleviate concerns with the length of the training package and further enhance learning by providing learners with two approached to support self-learning

Supporting The Change Process

Change leaders aim to revisit the entire education surround pressure damage prevention and PURPOSE-T training is delivered with a Pressure Prevention and Management training session.

To alleviate concerns with PURPOSE-T use such as the questionnaire format being lengthy or not as intuitive as the Waterlow template. Two educational packages were developed to guide the use of PURPOSE-T, one with screen-shot from SystmOne that guides clinicians step-by-step through the use of PURPOSE-T and one reflecting the new guidance within the Holistic template for the New Holistic and Mandatory SystmOne Templates. Both forms of PURPOSE-T use guidance were shared with clinicians as they were trained to use PURPOSE-T. The guidance was also imported into the SystmOne documents library.

The supporting document for the new Holistic and Mandatory SystmOne templates was revised into a seven page, step-by-step PURPOSE-T user guide.

To further support the use of PURPOSE-T and the change process, documents were imported in to SystmOne and available to all clinicians, this included:

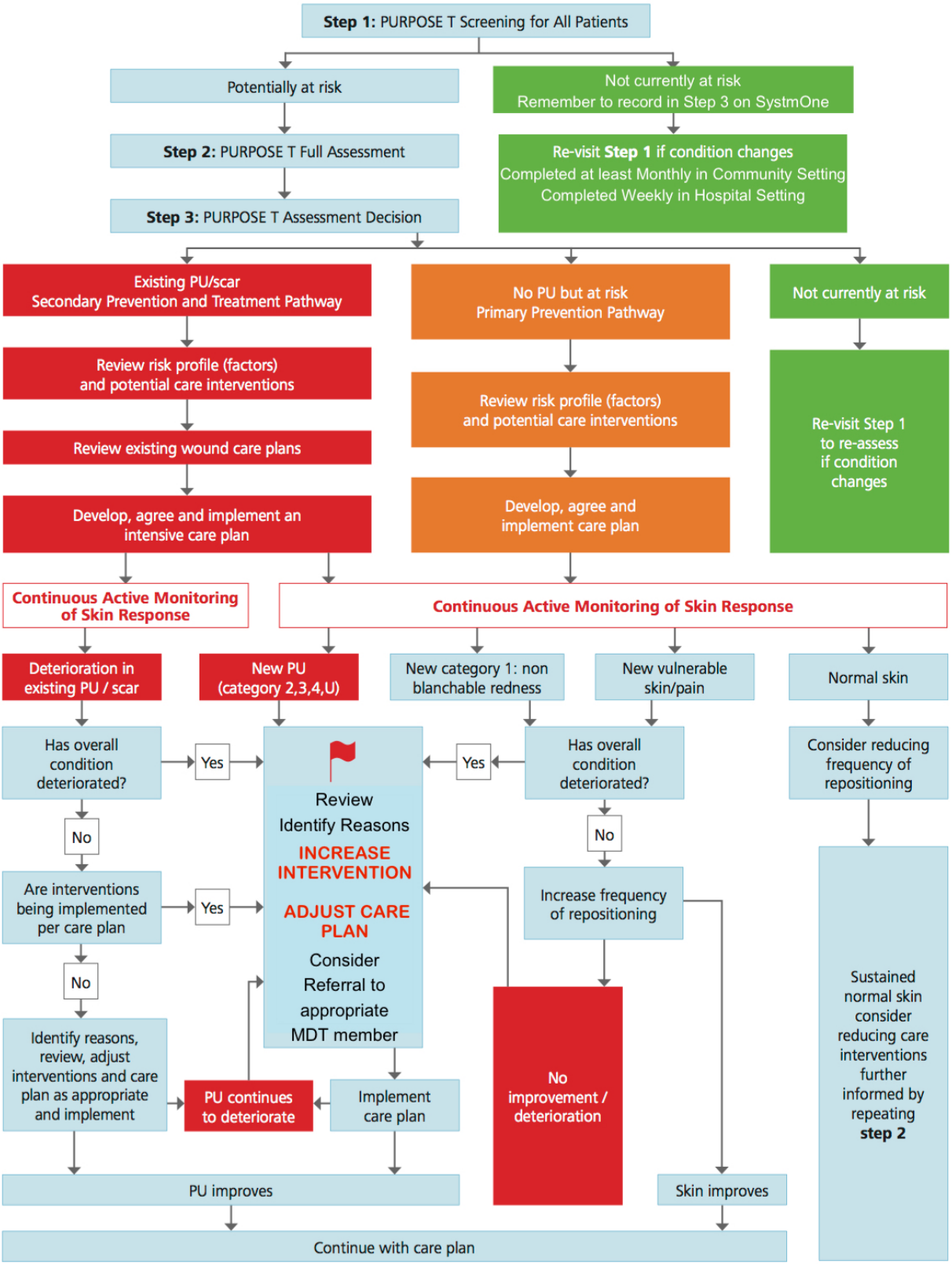
Documents supporting the use of PURPOSE-T available within SystmOne

- Pressure Ulcer Prevention care Pathway (PUPPs)
- Paper version of PURPOSE-T (Appendix Q)
- The Guide for Support Surface Provision
- Visually led education package
- Text led education package based on the revised supporting document for the new Holistic and Mandatory SystmOne templates

Guidance of how to access the documents within SystmOne was incorporated within the training package.

[redacted] NHS

Pressure Ulcer Prevention Pathways (PUPPs)



FREQUENCY OF INDEPENDENT MOVEMENT	EXTENT OF INDEPENDENT MOVEMENT	SUPPORT SURFACE LEVEL BED/MATTRESS		SEATING /CHAIR /CUSION LEVEL/ HEELS
Moves Frequently	**Major Positional changes**	**At risk /Primary Prevention**		
		PROPAD SINGLE / HALF DOUBLE –Overlay	TRANSWAVE CUT FOAM –Replacement	REPOSE HEEL PROTECTION PROPAD CUSHION
Moves Frequently	**Slight Positional Changes**	**Primary and Secondary Prevention**		
		REPOSE –Overlay TRANSVISCO – Foam overlay CONFORM X –Replacement TRANSVISCO ELASTIC- Replacement		REPOSE HEEL PROTECTION REPOSE CONTUR- Recliner MEMAFLEX
Moves Occasionally	**Major Positional Changes**	REPOSE –overlay TRANSVISCO –Replacement CONFORM X –Replacement TRANSVISCO ELASTIC –Replacement		REPOSE HEEL PROTECTION REPOSE CONTUR-Recliner MEMAFLEX
Moves Occasionally	**Slight Positional Changes**	HARVEST PRIME COMFORT –Hybrid replacement SOFFLEX Single SOFFLEX-Half double overlay		REPOSE HEEL PROTECTION TRANSFLO GEL CUSHION
Does not Move	**Does not Move**	AUTOLOGIC 200 –Replacement. HARVEST WONDERMAT - Replacement TALLEY QUATTRO- Replacement ROHO-Overlay		REPOSE HEEL PROTECTION ROHO CUSHION

This table provides a **guide** to appropriate support surfaces relating to different levels of independent movement.

Always involve the patient in considering appropriate available equipment options and **Consider Additional factors –**

- The patient's tolerance and skin response (To be assessed to determine that equipment meets the patients' needs)
- The impact support surfaces have on independent movement e.g. being unable to get out of bed
- Comfort and tolerance
- Environmental factors/care settings/provision /patients weight/height.

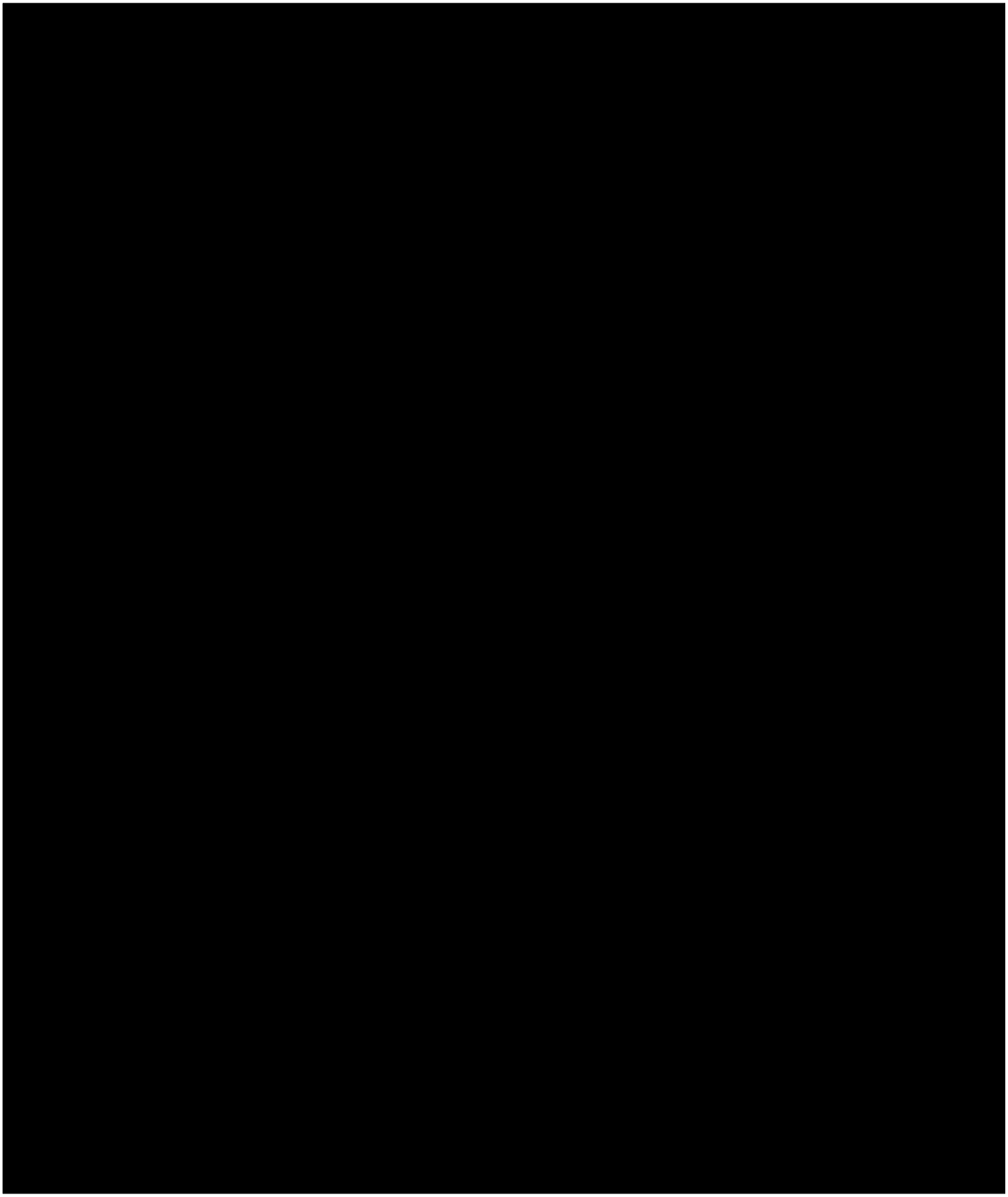
CUSHION AND HEEL PROVISION						
Name	Propad Cushion	Repose Boots	Repose Contur	Memaflex	Transflo Gel	Roho Cushion
Weight limits	17 stone	20 stone	21 stone	20 stone	28 stone	No weight limit
Constituent	Static Foam	Static air	Static air for Riser Recliner chair	Static foam	High density foam & silicone gel	Static air
Size specification	18"x 16"x 4"	15"x 8"	70"x 22"	17"x 17" x 2"	18"x 18"x 3.5"	18"x 18"x 4"

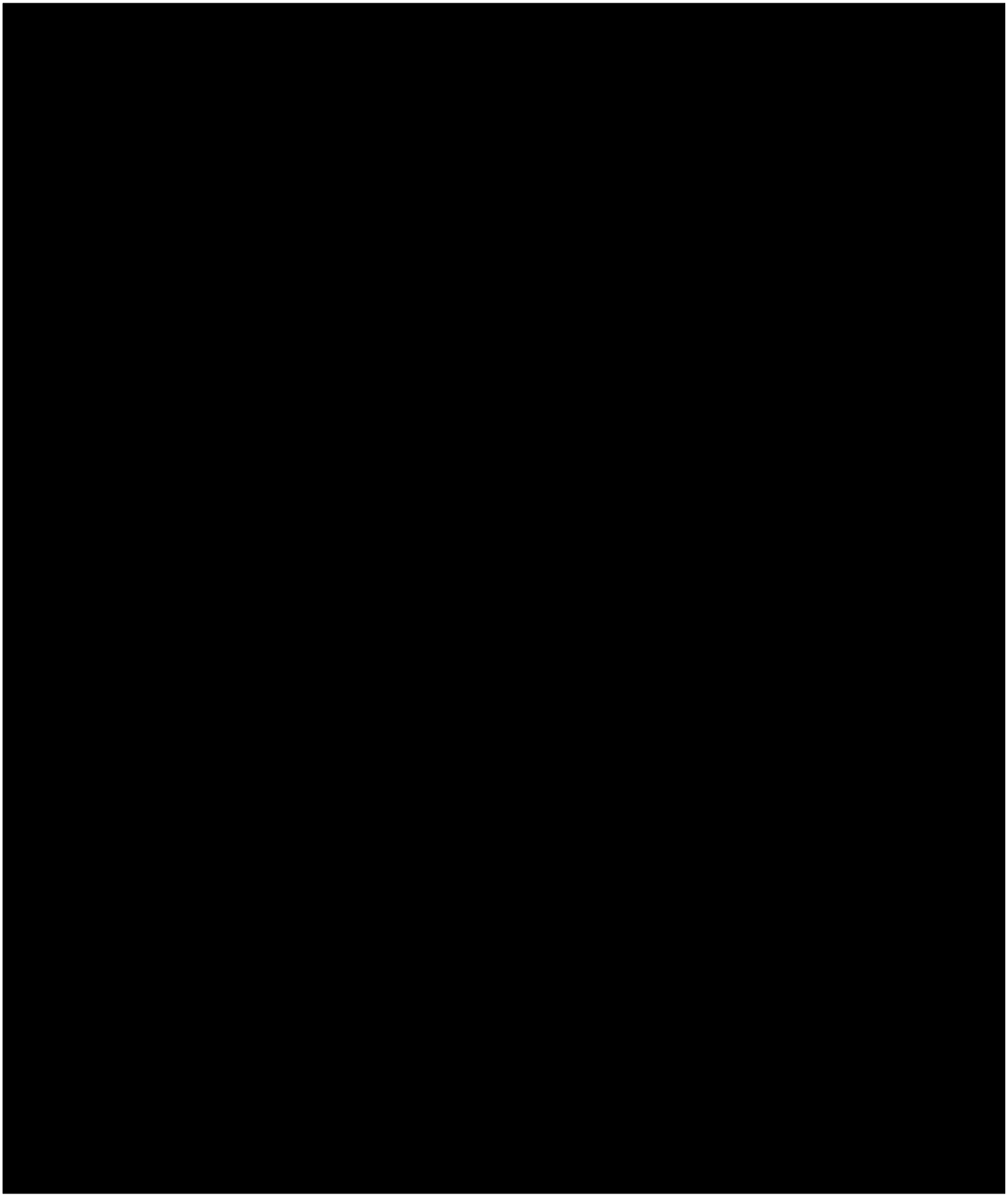
OVERLAY MATTRESS PROVISION							
Name	Propad Single	Propad Half Double	Transvisco	Repose	Sofflex Single	Sofflex Half Double	Roho
Weight limits	17 stone	17 stone	20 stone	18 stone	23.5 stone	20 stone	No weight limit
Constituent	Foam	Foam	Foam	Static air	Static air	Static air	Static air
Size specification	74"x 34.5"x 3.75"	73.75"x 27"x 3.75"	72"x 22.5"x 2.5"	72"x 27"x 2"	81"x 36"x 3"	72"x 27"x 3"	80"x 34"x 3.5"

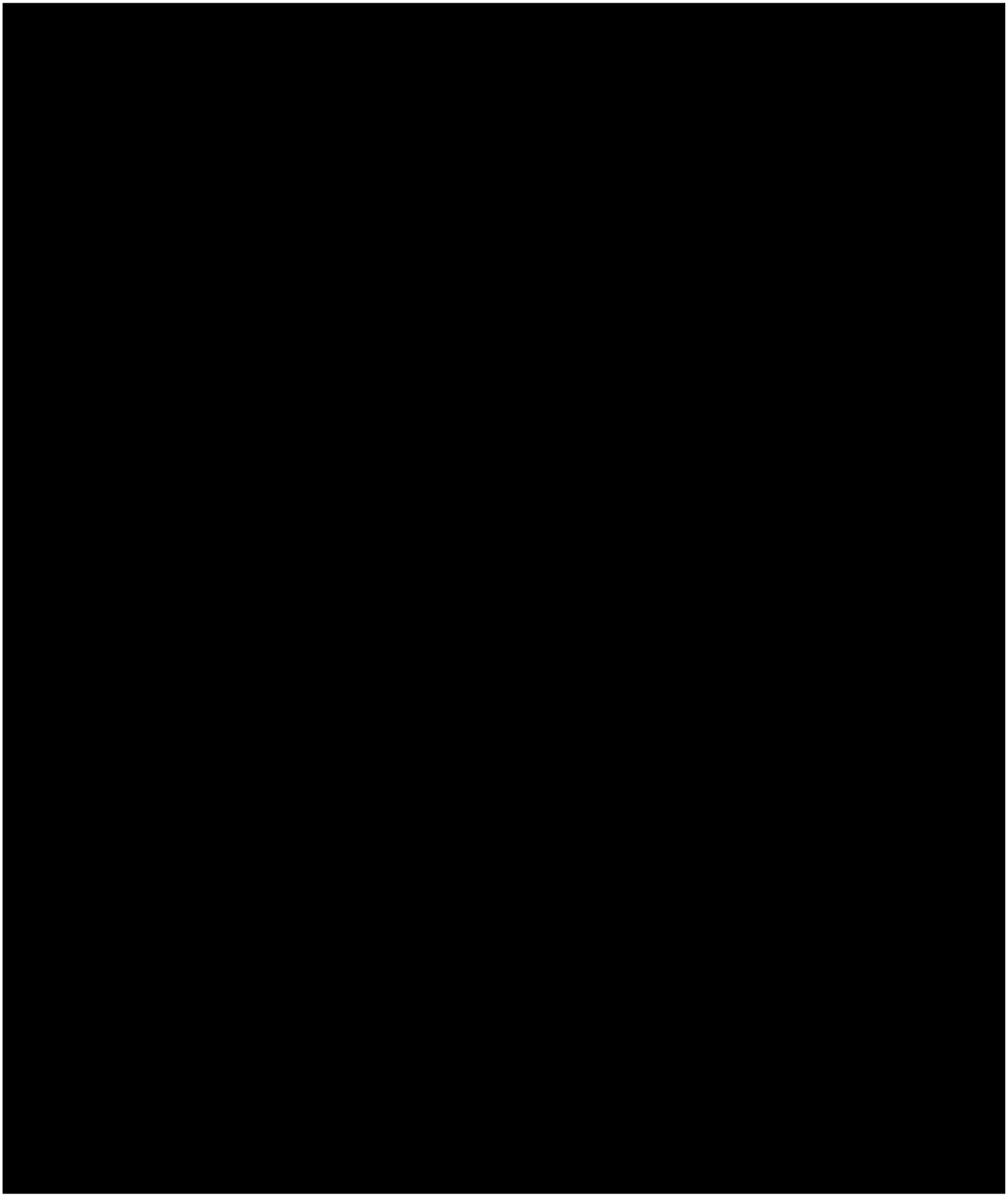
REPLACEMENT MATTRESS PROVISION							
Name	Transwave Cut Foam	Conform X	Transvisco Elastic	Harvest Prime Comfort	Autologic 200	Harvest Wondermat	Talley Quattro
Weight limits	39 stone	20 stone	30 stone	39 stone	23 stone	30 stone	31 stone
Constituent	Static Foam	Static Foam	Static Foam	Hybrid: Foam and dynamic air	Alternating Air	True Air Loss System	Alternating Air
Size specification	76"x 35"x 6"	78 x 33.5" x 8"	76"x 35"x 6"	78"x 35"x 6"	80"x 34"x 8"	78"x 35.5" x 9"	77"x 35"x 7"

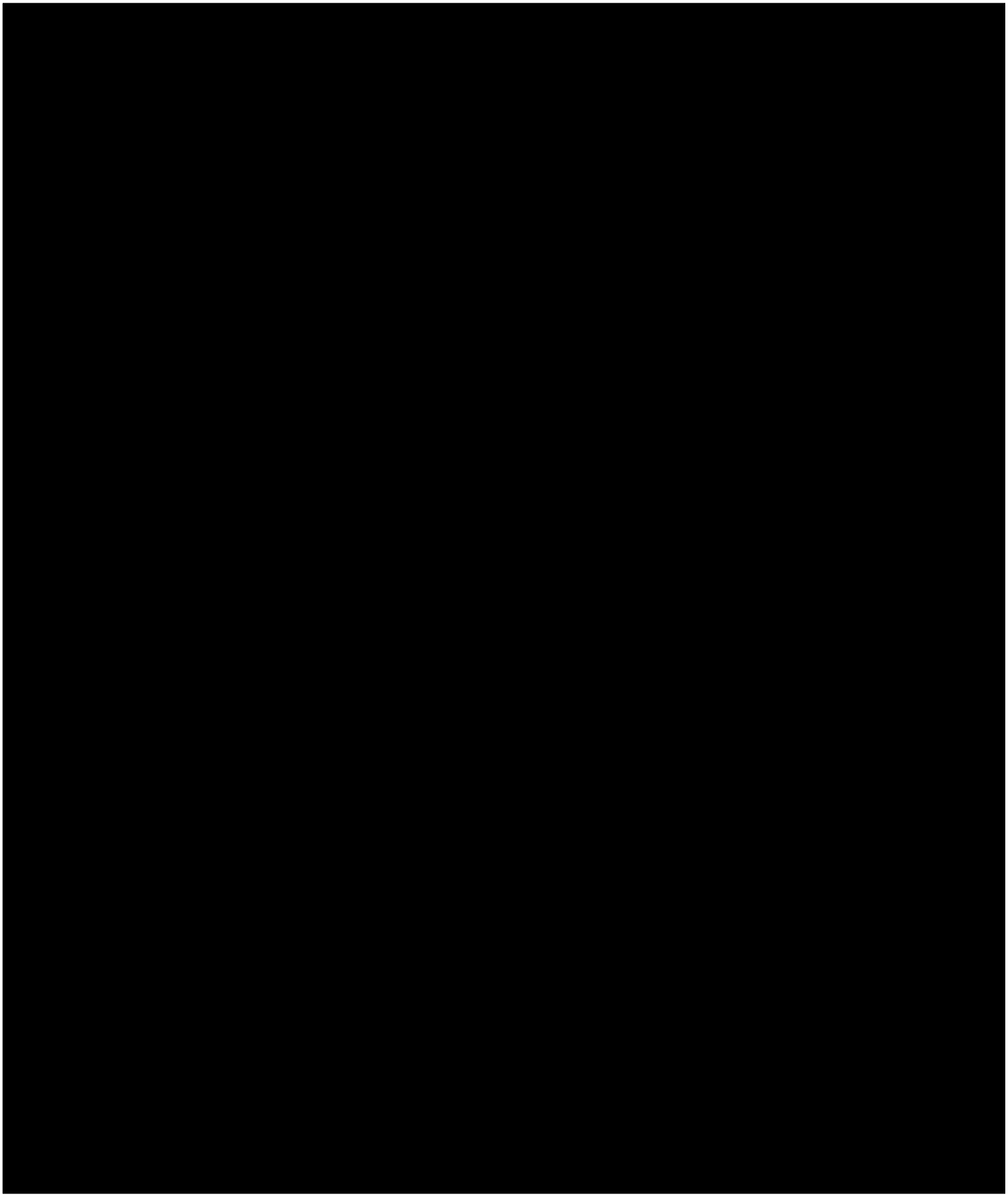
Visually led educational package, using screen shots from PURPOSE-T on SystmOne guiding clinicians:

- How to locate PURPOSE-T, its associated documents and guidance within SystmOne
- Rationale for innovation
- Pressure damage re-education with identification of risk factors
- Clear guidance for using SSKIN and PURPOSE-T
- Step-by-step guidance for PURPOSE-T usage
- Use the Pressure Ulcer Prevention care Pathway (PUPPs) guidance & its location within SystmOne.
- Use the newly revised PURPOSE-T concordant equipment matrix guidance & its location within SystmOne.
- How to locate & vote for functionality as described section 5.7









Vote for PURPOSE T Colour functionality within SystmOne

With this functionality, SystmOne would generate a colour associated outcome at the end of your PURPOSE T assessment

Please vote for this functionality

You can action this vote within your own business unit

Please select **systems** from the top of your screen

Select **Development Requests**

Type 8fe10000 within the reference code box

Click refresh, the development request will appear

Select **Yes I do support this development**, and enter a comment.

Vote for PURPOSE T Colour functionality within SystmOne

With this functionality, SystmOne would generate a colour associated outcome at the end of your PURPOSE T assessment

Please vote for this functionality

You can action this vote within your own business unit

Please select **systems** from the top of your screen

Select **Development Requests**

Type 8fe10000 within the reference code box

Click refresh, the development request will appear

Select **Yes I do support this development**, and enter a comment.

APPENDIX S

FOCUS GROUP SCHEDULE

Focus Group Schedule

Thank you agreeing to use PURPOSE-T in its current format & agreeing to discuss your experiences during your monthly meet.

Good afternoon, my name is Heidi Green and I am from the university of Lincoln and am a Research Fellow within [redacted] Research and Innovation Team. I am very grateful to you all for agreeing to use The PURPOSE-T in conjunction with the Waterlow during the evaluation period and to you all for sparing time to join me today and talk about your experience. Today's discussion should last about 1 hour.

The session is being digitally recorded because I don't want to miss any of your comments and I just can't write fast enough or remember it all, I will afterwards transcribe our discussion. The views you express today will be confidential and only shared with the study team, all responses will be anonymous to ensure this you will be allocated a unique identification code. Your comments will be used to evidence a Master's thesis and for LCHS reports, illustrative verbatim quotations from your responses may be used, which will be referenced with the unique ID code assigned to you. You may refuse to participate or withdraw your comments at any time. If you do withdraw, no reference to your comments or verbatim quotations will not be used. A copy of my Masters award thesis will be lodged in the university learning resource centre and be publically available should you would like to read it. All data storage and handling will to meet NHS standards i.e. the digital recording and transcript will be password protected, any potentially identifying information removed and are only available to myself and my academic supervisor.

As the session is being digitally recording and so I can differentiate between speakers could you please all go around the table and say your name, job role and how long you have been in your role. I would like to use first names and request one person speaks at a time. There are no right or wrong points of view, just differing ones. I would like you to feel comfortable to share what you think or feel about your experience of the assessment frameworks. Feel free to share positive and negative comments; I really do want to hear what you honestly think and feel about the pressure damage assessment frameworks you have been using. If your opinions do differ, please listen respectfully and if you want to follow up on something said, want to agree, disagree, or give an example, feel free to do that. Also please talk to each other, have an open conversation about the questions don't feel you have to only respond to me, after all the aim of today is to discuss your experiences

My role is to guide the discussion, I am here to ask questions, listen, and make sure everyone has a chance to share. Therefore, if you're talking a lot, I may ask you to give others a chance and if you aren't saying much, I may call on you. I just want to make sure I hear from all of you. With that said, I have no experience as a clinician and don't use SystmOne; therefore you may need to explain technical terms or acronyms if you use them. I do request that you please only speak one at a time, the session is being recorded and it will be very difficult to understand what is being said when I listen back.

Are you happy with this process and do you have any questions?

It is now understood you have consented to take part in this focused discussion group and questions surrounding participation have been answered. I would like to once again assure you that your views will be treated in confidence and will be anonymous and you are free to refuse to participate or withdraw at any time - please be as open and honest as you can.

How have you found the experience of using both Risk assessment frameworks?

How did PURPOSE-T function comparatively to the Waterlow

Did you learn anything from the experience?

What are your first impressions about PURPOSE-T?
- Do you find anything confusing?
- What about possibility of assessment inconstancy between Waterlow & PURPOSE-T?

What about subjectivity and possibility of clinician difference of opinion?

Do you think PURPOSE-T has affected your clinical practice?
- Have there been any positive changes?
- What about negative changes?
- Time management?
- Speed of completion?
- When to complete?

How did you find PURPOSE-T compared to Waterlow when prescribing equipment?
- Did you feel you were over prescribing?
- Under prescribing?

What do you think of the PURPOSE-T assessment compared to Waterlow?

Is there anything PURPOSE-T risk predictors capture that Waterlow doesn't?

- organ failure patients?
- long-term conditions?
- frailty?
- Etc?

Do you think PURPOSE-T misses anything during the assessment?
- Frailty
- Diabetes
- Organ failure

What about speed of PURPOSE-T completion and your own time-management?
Do you like PURPOSE-T?
Other than its format, has anything disappointed you about PURPOSE-T?

Did you have any assumptions about PURPOSE-T?

Do you think others will think the same?
[If problematic] How do you think this can be overcome?

Other than its format, what barriers to you think we would come against rolling this out to all teams?

PURPOSE-T on SystmOne

Tell me about using PURPOSE-T on SystmOne?

What would you like to see in the template?

All things considered do you think PURPOSE-T is a suitable replacement for the Waterlow?

Of all of the comments made today which is most important to you?

Finally

Thinking about PURPOSE-T as a replacement for the Waterlow, is there anything you think we have missed or you think needs adding to the discussion?

Is there anything we have missed or you we should have talked about but didn't

Our time is up

Thank you for your contributions, they have been very insightful. Your contributions will be anonymous and confidential.
Your contribution to this project has been invaluable and it is great to hear such positive responses to PURPOSE-T. I look forward to seeing the long-term effects of PURPOSE-T usage. It will be mid this year before reports are finalised and publically available, if you would like me to contact you with outcomes I will share details with you.

Once again thank you for your time

APPENDIX T

FOCUS GROUP

THEMATIC ANALYSIS

ROUND 1

ROUND 2

ROUND 1 FOCUS GROUP CODING

Organising theme	main theme	Coding refs	Thoughts	
Thoroughness	Enhanced considerations		3 names same concept - which to choose?	Its through
	Tool thorough			Its specific
	widens clinical considerations renamed to Widens clinical picture		Does not capture data the same way as widens clinical consideration code from survey. Rename captures all three suggested codes - will merge with same named Stage code from Survey Overlaps with -One	Its improved mediates confusion
	Specificity			
Acceptability - all themes surrounding how clinicians liked/disliked PT	Need for change			Removed not relevant
	Time consuming			
	Concerns for rollout rejection			
	Assessment Consistency			
	Outcome accurately reflects patient status			
	Improved Predictive Power			
	Waterlow Inaccurate Completion		Will merge inaccurate completion referring to Waterlow from Survey Consistency of Completion node Overlaps with Stage One	
	Waterlow over estimation		Will merge with Survey sensitivity accuracy over predictors Overlaps with Stage-One	
	Waterlow Promotes Confusion		Will merge with node from Survey Overlaps with Stage-One	
	Why Liked PT		Use these as wide codes to then capture reasons	Thoroughness
	Why Disliked PT			
	I think is better		Coded in vivo	
	Screening improvement		Captures screen in and out	
	Will better support novice clinicians		Overlaps with Stage-One	
	Alleviates Confusion		began as Clarifies Confusion	
	Assessment Accuracy			
	Assessment constancy			
	specificity		Overlaps with Stage-One	
	Positive impact from improved focus on risk factors			
	Clinical empowerment			
	assessment accuracy			
	usability		Overlaps with Stage-One	
	alleviates defensive nursing		important to recognize in relation to survey outcomes	
	Promotes self care			
	Improved sensitivity to change			
	Skin vulnerability		Specific risk factor discussed	
	enhanced considerations			
	Comprehensiveness		Was called Tool thoroughness - bit basic naming	
	Concern for assessment duplication		Ensured training is very clear when to use PURPOSE-T i.e. when there is change or at least monthly	
	preferred having an outcome or PUPPs			
	Clinicians will need time to embed change			
	Equipment guide on SystmOne			
	Educational needs			

FOCUS GROUP THEMATIC ANALYSIS ROUND 2

Key Theme	Theme Identifier	Coding refs		Exemplifying Quotation	Thoughts
Improved Clinical Confidence	Screen-out experience	24	13 %	"...I get a few 10s on Waterlow which I will screen out on clinical judgement as well as using PURPOSE-T." FG6063	Captures screen in and out
	Improvement having an outcome & PUPPs	5	3 %	"…I coz I just kind of ignore the waterlow score coz they all score high regardless so it's irrelevant, where at least with that it gives you some evaluation or you screen them out" F0562	Theme began as Immediate improvements
	Positive impact from improved focus on risk factors	7	4 %	"Thinking about it, it did actually make me prescribe emollients when perhaps before I wouldn't have noticed so much dry skin before because I wasn't looking at all of their areas mores specifically as PURPOSE-T prompted me too. I think probably I was looking at it with different eyes and that's really positive" FG6061	
	Assessment Consistency	9	5 %	"...it's much better and accurate and much more objective." FG1165	
	Alleviates Confusion	3	2 %	I think there will be a much higher degree of consistency we all might get the odd thing where somebody has not understood what heart failure is generally there will be higher degree of consistency	began as Clarifies Confusion
	Improved documentation	6	3 %	I think it's more comprehensive so your documents will demonstrate more areas than the Waterlow FG6061	
	Improved sensitivity to change	5	3 %	"… I think potentially PURPOSE-T, if you go and see a patient when they are poorly and you get them better, when you do them again you could potentially score them well." FG0562	
	Clinical empowerment	3	2 %	Yeah I think so because we used to get pressure if the score was sort of 10 or 12 as you were saying clinical judgement if that person who was mobile then gets an infection, becomes immobile and then gets a pressure sore that would then be thrown back in your face through the RCA thing. Well you did the score, you said and you know it's changed and you get asked why didn't you put something in preventatively because they were at risk. you couldn't really win, you ended up being defensively nursing whereas actually there has to be some element of self-care where they phone up and say I'm not as well, can I have [equipment] or my condition has changed, it didn't encourage self-care really umm where this does really screen those people out FG1165	
	Alleviates defensive nursing	3	2 %	"... we used to get pressure if the score was sort of 10 or 12 as you were saying clinical judgement if that person who was mobile then gets an infection, becomes immobile and then gets a pressure sore that would then be thrown back in your face through the RCA thing. Well you did the score, you said and you know it's changed and you get asked why didn't you put something in preventatively because they were at risk. you couldn't really win, you ended up being defensively nursing whereas actually there has to be some element of self-care where they phone up and say I'm not as well, can i have [equipment] or my condition has changed, it didn't encourage self-care really umm where this does really screen those people out." FG1165	important to recognise in relation to survey outcomes
		65	32.5 %		
Thoroughness of Assessment	Widens clinical picture	19	10 %	"I personally found it did a more thorough job as it did make me think more about all of the vulnerable areas rather than the immediately obvious, so knowing that, that's what I had to physically look at, ankles and heels and elbows you know doing the whole inspection. I thought it was better and recording you had done that piece of work was better than the waterlow was" FG6061	Does not capture data the same way as widens clinical consideration code from survey. Rename captures all three suggested codes - will merge with same named code from Survey was called widens clinical considerations
	More comprehensive assessment	9	5 %	I think that what the PURPOSE-T does, is make everybody think about what those patient's conditions are and how that might affect their tissue viability because umm it might not be immediately obvious the they are going to be more at risk because they have got heart failure, from the Waterlow because it just counts it an extra risk. Whereas right at the front page we are already including, your already thinking about that really so i don't know if it will be a just bit more thorough FG6061	Was called Tool thoroughness/Comprehensiveness
	Enhances decision making	4	2 %		was called better supports decision making
	Improved identification of risk factors	17	9 %		combined with identifying specifics within the assessment Skin vulnerability specifically discussed
		49	41		

			%		
Acceptability	usability issues	31	17 %	"umm yeah no, it is more specific and directional I do wonder whether generally everyone will find it more time consuming having to do a more thorough full assessment than doing a waterlow as they have to assess more skin sites, but maybe that's the point. Well that is the point but yeah, but I do wonder if people won't find it as user friendly as the waterlow is and that's important" FG6064	
	Time consuming	12	6 %		
	Concern for assessment duplication	7	4 %	"...my biggest difficulty was filling in that and then going on to sskin so you say you have looked at all of these areas this is the information but then you are going on to sskin to complete that as well so I think we need to be quite mindful about what we are duplicating." FG6061	Ensured training package is very clear when to use PURPOSE-T i.e. when there is change or at least monthly
	Equipment guide on SystmOne	9	5 %	"you know the little equipment guide you did, I was wondering if that could be incorporated on as back page within the template, so you haven't got to get it out of you bag and its always there" FG6061	
	Educational needs	8	4 %	"I think the barriers going to be as ever education, getting to everybody as I think everyone that starts using this needs some face-to-face sort of discussion about it otherwise it looks like ughhhhh what I am supposed to do with this" FG6064	
	Clinicians will need time to embed change	5	3 %	"… I think people will like it, they just need that time to embed the change." FG1165	
	Disliked format	1	0.5 %	"well yeah I found it useful, I think that the set-up with every separate area was a little bit slow when you have to do a full one, the rest of it was absolutely fine, and I really liked. umm I didn't thing the questionnaire did work but as a template would probably be better and complete a tick box, you know more intuitively, rather than having to go through every area of the body"	
		73	36.5 %		
	Total coding Refs	187	16 %		
		65			
Not used because	Waterlow Inaccurate Completion	9			Will merge inaccurate completion referring to Waterlow from Survey Consistency of Completion node
	Waterlow over estimation	6			Will merge with Survey sensitivity accuracy over predictors
	Waterlow Promotes Confusion	1			Will merge with node from Survey

APPENDIX U

FOCUS GROUP

TRANSCRIPT EXCERPT

I think in the PURPOSE-T it actually lists heart failure doesn't it whereas in the Waterlow it just says organ failure and I think that gets missed by a lot of community nurses from what I have seen. When I have comes to their Waterlow they haven listed that they have got it	FG0562
that is one of the things that one of those missed boxed that are why we count our scores as being higher than what has been completed before its usually that, that's not been ticked	FG6061
missed isn't it? and if they have got heat failure they have more than likely have kidney failure too, which is multi-organ failure and that's not listed is it and that's why most of our patients on waterlow score massively higher obviously	FG0562
I think there is misunderstanding as to what should be included under organ failure as well as other elements of the scoring system so it is better for that	FG6064
I find that really interesting because one of the outcomes of the survey was people commenting that they can't score organ failure because there in nowhere for them to score	Moderator
no your right, that explains it, that is the problem isn't it, there is a box and they are missing it	FG6063
Yeah all the time ,	FG0562
they are missing it	FG6061
that's a concern that is	FG6063
and it does say single organ failure or multiple organ failure on Waterlow so you can pick which one it is, that's the box that I think might need adding added in SystmOne	FG6061
that's a concern that is	FG6063
Because you are saying Waterlow is not being used correctly do you think PURPOSE-T will pick up what Waterlow is missing	Moderator
and the other thing about PURPOSE-T is it make you think about even when you can't see anything on their skin when they say it hurts and you can't see anything you're putting it down	FG6061
because yeah coz like you said that's more significant with tissue viability that you are putting it down, I think that's good coz on Waterlow you don't have that option do you. you know coz sometimes like the other day Ident to a patient that said it feels sore, so I looked at it and I thought I can't see anything and at least you can put that down	FG0562
I think that's good [agreeing]	FG6063